INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: January 16, 2014

RE: BP Products North America, Inc. – Whiting Business Unit / 089-33530-00453

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot 6/13/13

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Ms. Natalie Grimmer
BP Products North America, Inc. - Whiting Business Unit
2815 Indianapolis Blvd
Whiting, IN 46394

January 16, 2014

Re: 089-33530-00453
Significant Source Modification to:
Part 70 permit No.: T089-6741-00453

Dear Ms. Grimmer:

BP Products North America, Inc. -- Whiting Business Unit was issued Part 70 Operating Permit T089-6741-00453 on December 14, 2006 for stationary refinery and marketing terminal located at 2815 Indianapolis Blvd., Whiting, IN 46394. An application to modify the source was received on August 15, 2013. Pursuant to the provisions of 326 IAC 2-7-10.5, a significant source modification to this permit is hereby approved as described in the attached Technical Support Document.

Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

New Units:

Hazardous Waste Treatment System Units:

(a) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(b) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction,equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters

Wastewater Treatment Plant Units:

(c) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, constructed as part of the Lakefront Upgrades Project, identified as:

(1) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(2) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(d) One (1) Solids Collection System, which consists of the J-92 pump lift station and strainer backwash system, approved in 2014 for construction, with a storage capacity of 5,257 gallons, constructed as part of the Lakefront Upgrades Project.

(e) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(f) Sewer components associated with the Lakefront Upgrades Project.

Modified and Affected Units:

(g) The following tanks will now be oil-water separation, equalization, and stormwater surge tanks instead of storage tanks: TK-5050, TK-5051, and TK-5052. Additionally, TK-5050 is being equipped with an external floating roof.

(h) TK-562 solids tank, an existing fixed-roof storage tank located at the WWTP, will experience an increase in throughput as a result of the Lakefront Upgrades Project. Additionally, as a part of the project, emissions from the tank will be routed to a closed vent and carbon canister system.

The following construction conditions are applicable to the proposed modification:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

Commenced Construction

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(j), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(m), the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

Approval to Construct

7. Pursuant to 326 IAC 2-7-10.5(h)(2), this significant source modification authorizes the construction of the new emission unit(s), when the significant source modification has been issued.

Pursuant to 326 IAC 2-7-12, operation of the new emission unit(s) is not approved until the significant permit modification has been issued. Operating conditions are incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(m)(2) and 326 IAC 2-7-12 (Permit Modification).

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

If you have any questions on this matter, please contact Kristen Willoughby, of my staff, at 317-233-3031 or 1-800-451-6027, and ask for extension 3-3031.

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

Attachments: Significant Source Modification and Technical Support Document

JA/kw

cc: File - Lake County
Lake County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section
IDEM Northwest Regional Office

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Significant Source Modification to a Part 70 Source
OFFICE OF AIR QUALITY

BP Products North America Inc., Whiting
2815 Indianapolis Blvd.
Whiting, Indiana 46394

(herein known as the Permittee) is hereby authorized to construct subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.
This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions

Significant Source Modification No.: 089-33530-00453	
Issued by: Jenny Acker, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 16, 2014

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 and A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary refinery and marketing terminal.

Source Address:	2815 Indianapolis Blvd, Whiting, Indiana 46394-0170
SIC Code:	2911
County Location:	Lake
Source Location Status:	Nonattainment for 8-hr Ozone standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD and Emission Offset Rules Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

(a) This stationary source consists of two (2) plants, with a third plant located on an adjacent site:

(1) The Whiting Refinery (previously designated 089-00003), located at 2815 Indianapolis Boulevard, Whiting, Indiana 46394; and

(2) The Marketing Terminal (previously designated 089-00004), located at 2530 Indianapolis Boulevard, Whiting, Indiana 46394.

(3) INEOS USA LLC (designated as 089-00076), 2357 Standard Avenue, Whiting, IN 46394.

Since the two (2) plants (Whiting Refinery and the Marketing Terminal) are located on contiguous or adjacent properties, the plants are under common control of the same entity, and the Whiting Refinery supports the Marketing Terminal, the two (2) plants are considered one (1) source.

In the case of the BP Whiting refinery and the INEOS USA LLC chemical plant, neither plant has a major role in the day-to-day operations of the other plant. There is no contract between the two companies concerning the acceptance or usage of raw materials. Each plant is free to obtain raw materials from other sources. The chemical plant has obtained raw materials from other sources in the past when the refinery has been unable to supply it. Neither plant provides a majority of its output to the other plant. Neither plant has the right to assume control of the other under any circumstance. The INEOS chemical plant purchases steam, water, wastewater service and a raw material stream from the BP refinery. If the refinery were to cease operations, the chemical plant could continue to operate.

The BP refinery purchases a hydrocarbon stream from the chemical plant. It also sends by-products to the INEOS chemical plant's flare. The flared by-products come from the venting of rail cars and the depressurizing of drums. The refinery does not rely on the hydrocarbon stream in order to produce its principal products. The refinery does not rely on the INEOS flare. If the INEOS chemical plant were to cease operations, the refinery could continue to operate. The

refinery has a procedure in place on what steps its employees take when the INEOS flare is unavailable. Neither plant is dependent on the other to operate.

Since there is no common control, the refinery and the chemical plant are not part of the same major source. There is no need to examine the other two criteria under the definition of major source. Therefore, the chemical plant is not included in this Title V Operating Permit. The chemical plant will receive a separate operating permit.

(b) The BP Whiting Refinery (BP) needs high pressure steam and high pressure hydrogen for its Whiting Refinery Modernization Project (WRMP). Praxair owns and operates a plant near the BP facility that produces low pressure hydrogen, carbon dioxide and low pressure steam (Plant A). Praxair's Plant A sells less than 50% of its current production to BP. In order to supply the high pressure hydrogen and high pressure steam needed for BP's WRMP, Praxair constructed a new plant (Plant B) near Plant A. IDEM, OAQ has examined whether Praxair's new Plant B will be part of the same major source as Praxair's Plant A, and whether one or both of the Praxair plants are part of the same major source as BP. The term "major source" is defined at 326 IAC 2-7-1(22). In order for two or more plants to be considered one major source, they must meet all three of the following criteria:

(1) the plants must be under common ownership or common control;

(2) the plants have the same two-digit SIC Code or one must serve as a support facility for another; and,

(3) the plants must be located on contiguous or adjacent properties.

The Two Praxair Plants

The first analysis will be of the relationship between the two Praxair plants. The Praxair plants are owned by Praxair. In 1996, IDEM adopted nonrule policy document (NPD) Air-005 to provide guidance for major source determinations. This nonrule policy states that if two plants are owned by the same entity, then common control exists. Since the two Praxair plants have the same owner, there is also common control and the first criterion of the definition of major source is met.

The SIC Code Manual, 1987, sets out how to determine the proper SIC Code for each type of business. The SIC Code is based on the source's primary activity or product. Although OSHA started using NAICS, the North American Industry Classification System, a 6-digit industry grouping system in 2003, Indiana's source definition rules still refer to the SIC Code Manual, 1987. OSHA keeps the Standard Industrial Classification Code Manual, 1987, available at http://www.osha.gov/pls/imis/sic_manual.html on the internet. The two Praxair plant have the same two-digit SIC code 28 for the major group Chemicals and Allied Products. The two plants therefore meet the second criterion of the definition.

The last criterion of the definition is whether the two plants are located on contiguous or adjacent properties. Praxair's Plant B is located approximately 75 yards from Praxair's Plant A. The plants are separated by property owned by Mittal Steel. A Mittal Steel bridge runs between the two Praxair properties. The two plants are not located on contiguous properties.

The term "adjacent" is not defined in Indiana's rules. NPD Air-005 adds the following guidance:

- properties that actually abut at any point would satisfy the requirement of contiguous or adjacent property.
- properties that are separated by a public road or public property would satisfy this requirement, absent special circumstances.
- other scenarios would be examined on an individual basis with the focus on the distance between the activities and the relationship between the activities.

All IDEM evaluations of adjacency are done on a case-by-case basis looking at the specific factors for the sources involved. The evaluation should look at whether the distance between the plants is sufficiently small that it enables them to operate as a single source. In addition to determining the distance between the sources, IDEM asks:

(1) Are materials routinely transferred between the plants?
(2) Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?
(3) Is the production process itself split in any way between the plants?

These questions focus on whether the two separate sources are so interrelated that they are functioning as one plant, and whether the distance between them is small enough that it enables them to operate as one plant.

Praxair states that the site for Plant B was chosen because it was one of a very few possible sites in the area. Plant B must be located relatively close to BP to provide a cost effective way of supplying high pressure steam to BP's WRMP. Praxair has stated that it will not operate Plant B if the WRMP were to cease operation. Praxair has no customers for the additional 200 million cubic feet per day of high pressure hydrogen production or for the high pressure steam.

Materials will not be routinely transferred between the two Praxair sites. The only thing that will be transferred is low pressure steam produced at Plant A that is used as building heat for Plant B. Some of Plant B's piping will travel on Plant A's property but will not be directly connected to any process in Plant A.

The plant manager is the same for both the existing and new plant. Praxair uses the same plant manager for other Praxair sources that are in the same general area, even when the sources are miles apart. Praxair will employ additional regional employees with offices at Plant B that will have responsibilities at Plant A, Plant B and two other regional Praxair plants in Michigan. Praxair hired additional employees to operate Plant B. All Praxair employees located at Plant A and Plant B are cross-trained to perform tasks at either plant and all personnel are shared between the two plants. All employees at Plant A and Plant B may also be temporarily assigned to other Praxair plants in the region and elsewhere. Praxair uses this type of employee sharing companywide and would have used the same sharing arrangement even if Plant B had been located even further from Plant A.

Plant B will have its own control room, supply room, parts room and will function as a stand-alone plant. The production process will not be split in any way between the two Praxair plants. The raw materials Plant B will use to produce hydrogen and high pressure steam, natural gas, refinery gas and water, will come directly from BP.

The two Praxair plants do not operate as a single source. Though the plants will share one manager and production employees, they have separate and unrelated production processes. The plants could have the same relationship even if they were located many miles apart. Therefore, the two plants are not located on adjacent properties. Since they do not meet the third criteria of the major source definition, IDEM, OAQ finds that the two Praxair plants are not part of the same major source.

The Praxair Plants and the BP Whiting Refinery

IDEM, OAQ has also examined whether Praxair's Plant A and/or its new Plant B will be part of the same major source as BP. The same major source definition applies.

The Praxair plants have a different owner than BP and there is no other common owner. Where there is no common ownership, IDEM's NPD Air-005 sets out two tests to determine if common

control exists. These are the two-pronged test and the but/for test. If either test is satisfied, then common control exists.

The two-pronged test examines if one of the sources is an auxiliary activity that directly serves the purpose of a primary activity and if the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Day-to-day control of the auxiliary activity by the primary activity may be evidenced by several factors, including:

- is a majority of the output of the auxiliary activity provided to the primary activity?
- can the auxiliary activity contract to provide its products/services to a third-party without the consent of the primary activity?
- can the primary activity assume control of the auxiliary activity under certain circumstances?
- is the auxiliary activity required to provide periodic reports to the primary activity?

If one or a combination of these questions is answered affirmatively, common control may exist.

Plant A supplies hydrogen gas to BP. Plant A also produces hydrogen and carbon dioxide gases, which are sold to customers other than BP. More than 50% of Plant A's sales are to its other customers. BP does not have a major role in the day-to-day operations of Plant A. Plant A and BP do not meet the first common control test

Plant B will dedicate 92.5 percent of its total output of high pressure hydrogen and high pressure steam to BP. Plant B does not yet have any other customers. In addition, BP will supply all of the natural gas, refinery gas and water used by Plant B. BP will have a major role in the day-to-day operations of Plant B. Plant B and BP meet the first common control test.

The second common control test, the but/for test, asks if the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied.

If BP were to close, Plant A would be able to continue operating, since it will still have most of its customers and it does not get any material from BP. The but/for test is not satisfied. Therefore, there is no common control between Plant A and BP.

Plant B would lose at least 92.5% of its sales and lose its supply of essential raw materials if BP were to close. Plant B would not be able to operate until it created new fuel and water supply lines. Plant B would also have to find new customers. Plant B and BP satisfy the but/for test. Therefore, there is common control between Plant B and BP.

The second part of the definition of major source is whether the plants have the same two-digit SIC Code or if one serves as a support facility for the other. Plant A and Plant B have the two-digit SIC Code 28 for the major group Chemicals and Allied Products. BP has the two-digit SIC Code 29 for the major group Petroleum Refining and Related Industries.

A plant is considered a support facility if at least 50% of its total output is dedicated to the other plant. Plant A does not send 50% or more of its output to BP; therefore it is not a support facility. Plant B has dedicated at least 92.5% of its output to BP, so it is a support facility to BP. The second element of the definition is met for BP and Plant B, but not for BP and Plant A.

The last element of the definition is whether Plant A and/or Plant B are on contiguous or adjacent properties with BP. Plant A is on property that shares a common 40 foot long property line with

BP's property. Therefore, Plant A and BP are on contiguous properties, meeting the third element of the definition.

Plant B is located on property that is not contiguous with BP's property. The two properties are about 1,600 feet apart. IDEM, OAQ must determine if Plant B and BP will be "adjacent". As stated above, all evaluations of adjacency are done on a case-by-case basis looking at the specific factors for the source involved. In addition to determining the distance between the sources, IDEM asks:

(1) Are materials routinely transferred between the plants?

(2) Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?

(3) Is the production process itself split in any way between the plants?

These questions focus on whether the two separate sources are so interrelated that they are functioning as one plant, and that the distance between them is small enough that it enables them to operate as one

Refinery gas, natural gas and water will flow through lines from BP to Plant B. Plant B will use that fuel and raw material to create high pressure steam and hydrogen which will be sent to BP by other dedicated pipelines. It is important that Plant B is located near to BP for effective transmission of high pressure steam.

No managers or production staff will travel back and forth between Plant B and BP to be actively involved in both plants. The production process will be split between Plant B and BP, as the hydrogen and high pressure steam provided by Plant B will result in the production of additional refinery gas which can be sent to Plant B from BP.

IDEM, OAQ finds that the distance between the two plants is sufficiently small and their production processes are so intertwined that it allows them to function as one source. Therefore, Plant B and BP are located on adjacent properties.

Plant A and BP do not meet all three elements of the major source definition. Therefore, Plant A and BP are not part of the same major source. Plant B and BP meet all three elements of the definition. IDEM, OAQ therefore finds that Plant B and BP are part of the same major source.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(a) Nos. 11A and 11C Pipe Stills built in 1956, with a rated capacity of 220,800 barrels per day, and identified as Unit ID 120 process crude into various hydrocarbon fractions based on boiling points. This facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) The following process heaters, all of which are fired by natural gas, refinery gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-1X	250	120-01	None
H-2	45	120-02	None
H-3	55	120-03	None
H-200	249.5	120-05	Current: None After WRMP: Ultra Low NO_X Burners
H-300	180	120-06	None

(2) Two (2) vacuum hot wells (D-21, constructed in 1990 and D-26, constructed in 1997) and one (1) sump (D-20, constructed in 1990), with D-20, D-21, and D-26 each venting to S/V 120-07, at No. 11 A Pipe Still.

(3) One (1) vacuum hot well (D-300), constructed in 1995 venting to S/V 120-08 at No. 11C Pipe Still.

The vacuum tower overhead system consists of a series of condensers, steam ejectors, and vacuum pumps. The majority of the overhead vapors are condensed and drained to the hotwell, which is pumped back to the front end of the unit for reprocessing. The gas compressors pull the remaining vapor that is not condensed in the overhead system into the wet gas system, where the hydrocarbon is reprocessed by down stream units. A thermocouple system (with temperature alarm) is used to monitor the vacuum on the system.

(4) Leaks from process equipment, including pumps, compressors (K-4 and K-4A at No. 11A Pipe Still and K-300A and K-300B at the No. 11C Pipe Still), pressure relief devices, sampling connection systems, open-ended lines, valves; and heat exchange and instrumentation systems.

(5) One (1) storage tank (identified as Tank 3030) with a maximum storage capacity of 847,000 gallons. This tank was installed in 1957 and is equipped with an external floating roof.

(6) One (1) oil water separation system (identified as Tank 8) with a maximum storage capacity of 124,800 gallons.

(7) One (1) redundant oil water separation system (identified as Tank 8a), permitted in 2008, with a maximum storage capacity of 124,800 gallons, equipped with a carbon canister for VOC control.

(8) As part of the No. 11A PS and No. 11C PS WARP, per SPM 089-25488-00453, the two existing blowdown stacks identified as stacks 11PS-A and 11PS-C will be shutdown, with the pressure relief discharge that was previously routed to the blowdown stacks will be re-routed to the DDU flare, except for T-300 vacuum tower relief discharge and the COVs.

(b) Cokers

(1) No. 11B Coker, which processes heavy crude fractions into coke, and Coke Pile. These facilities are identified as Unit 120 and are rated at 2,000 tons of coke per day. The facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(A) Four (4) process heaters comprising:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-101 H-102 H-103 H-104	200 (total)	120-04	None

(B) Storage and handling of the bulk material. Fugitive emissions are controlled by keeping the coke wetted and having a 15' sheet piling wall surrounding the coke pile. The coke pile height will not exceed 15'.

(C) The No. 11B Coker is connected to the DDU flare system. The system is used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(D) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges and other connectors and heat exchange systems.

(Note: The No. 11B Coker and existing Coke Handling System, heaters H-101, H-102, H-103, and H-104 will be replaced by the New Coker (#2 Coker) and new Coke Handling System and heaters F-201, F-202, and F-203 as part of the WRMP project, identified later in this Section).

(2) New Coker (#2 Coker), constructed as part of WRMP project, which processes heavy crude fractions into coke, and new Coke Handling System. These facilities are identified as Unit 800 and are rated at 6,000 tons of coke per day. The New Coker (#2 Coker) heaters F-201, F-202, and F-203 are equipped with Selective Catalytic Reduction (SCR) for control of NO_X. The New Coker (#2 Coker) heater stacks have continuous emissions monitors (CEMS) for NO_X and CO. The facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(A) Process heaters comprising of:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted to	Emission Controls
F-201	208	800-01	Low-NO_X burners and selective catalytic reduction
F-202	208	800-02	Low-NO_X burners and selective catalytic reduction
F-203	208	800-03	Low-NO_X burners and selective catalytic reduction

(B) Storage and handling (including up to 10 transfer points) of the bulk material comprised of a partially enclosed crusher, enclosed conveyors, enclosed storage, day bins, and rail car load out under the main operating scenario. In order to minimize fugitive emissions from the coke handling process, transfer points 1 and 10 will include enclosed conveyors and transfer points 2 through 9 will use enclosed buildings, and water sprays. Coke handling operations will be expected to operate under this main operating scenario for at least 95% of operating hours

annually. There will also be an alternative operating scenario which will consist of three enclosed conveyors with unenclosed transfer points. Coke handling operations are expected to operate under this alternate operating scenario for no more than 5% of operating hours annually.

(C) The New Coker (#2 Coker) is connected to the South flare and associated flare gas recovery system FGRS1 (included in Section D.35). The system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(D) One (1) storage tank, identified as TK-6254, with a maximum storage capacity of 14,028,000 gallons storing coker resid at a vapor pressure less than 0.5 psia. Tank TK-6254 is equipped with a fixed roof and controlled by an iron sponge.

(E) Six (6) natural gas fired heaters, each rated at 1.0 mmBTU/hr, used for heating tank TK-6254.

(F) Associated valves, pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges or other connectors, instrumentation and heat exchange systems.

(G) Miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1 (included in Section D.35).

(c) No. 12 Pipe Still, constructed in 1959 and to be modified as part of the WRMP Project, which processes crude into various hydrocarbon fractions based on boiling points, identified as Unit ID 130, and is rated at 336,000 barrels per day. Heaters identified as H-1AN, H-1AS, H-1B, H-2, H-1CN, and H-1CX will be shutdown and replaced by heaters H-101A, H-101B, and H-102 as part of the WRMP project. Also, as part of the WRMP Project, there will be upgrades made to the atmospheric and vacuum distillation towers and various heat exchangers and associated piping. The facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) The following process heaters, all of which are fired by natural gas, refinery gas, or liquified petroleum gas:

Heater Identification	Construction Date/Permitted Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-1AN	1959	121.5	130-01	None
H-1AS	1959	121.5	130-01	None
H-1B	1959	243	130-01	None
H-2	1959	174	130-01	Ultra low NO_X burners
H-1CN	1995	120	130-02	Low NO_X burners
H-1CX	1977	410	130-04	Low NO_X burners
H-101A	Permitted in 2008 (SPM 089-25488-00453)	355	130-05	Ultra low NO_X Burners

Heater Identification	Construction Date/Permitted Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-101B	Permitted in 2008 (SPM 089-25488-00453)	355	130-07	Ultra low NO_X Burners
H-102	Permitted in 2008 (SPM 089-25488-00453)	331	130-06	Ultra low NO_X Burners

(2) One (1) vacuum hot well, identified as D-7, constructed in 1995, and venting to S/V 130-05. The vacuum tower overhead system consists of a series of condensers, steam ejectors, and vacuum pumps. The majority of the overhead vapors are condensed and drained to the hotwell, which is pumped back to the front end of the unit for reprocessing. The gas compressors pull the remaining vapor that is not condensed in the overhead system into the wet gas system, where the hydrocarbon is reprocessed by down stream units. A thermocouple system (with temperature alarm) is used to monitor the vacuum on the system.

(3) The No. 12 Pipestill, after modifications, will be connected to the South flare and flare gas recovery system FGRS1 (included in Section D.35). The system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(4) Leaks from process equipment, including compressors (K-1, K-1A, K-1B, K-101A, K-101B and K-101C), valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and flanges and heat exchange systems. Compressors K-1, K-1A, and K-1B will be shut down as part of WRMP.

(5) Miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1 (included in Section D.35).

(d) The Sulfur Recovery Plant (SRP), identified as Unit ID 162, originally constructed in 1971 and expanded in 1981 and 1995, and rated at 600 long tons per day, to be modified as part of the WRMP Project, increasing the capacity to 1,300 long tons per day of sulfur. Additional sulfur capacity can be achieved with oxygen enrichment in the C, D and E Claus trains as part of the original WRMP design with no increase in permitted emissions. The facility includes the following and may also include insignificant activities listed in Section A.4 of this permit:

(1) Three (3) three-stage Claus sulfur recovery trains, identified as A, B, and C, and two (2) additional three-stage Claus sulfur recovery trains installed after modification, identified as D and E trains.

(2) One (1) Beavon-Stretford tailgas unit (B/S TGU), a reduction system with a burner capacity of 24.3 mmBTU per hour, exhausting at stack S/V 162-02. The B/S TGU will be decommissioned as part of the WRMP project.

(3) One (1) tailgas unit (SBS TGU), an oxidation system with a burner capacity of 40 mmBTU per hour, exhausting at stack 162-04. The SBS TGU will be decommissioned as part of the WRMP project.

(4) One (1) caustic soda scrubbing tower to control sulfur dioxide emissions from the SBS TGU. The caustic soda scrubbing tower will be decommissioned as part of the WRMP project.

(5) One (1) cooling tower, identified as the SBS cooling tower, used to remove sodium bisulfite from the caustic scrubbing tower exhaust stream, equipped with a high-efficiency mist eliminator, and exhausting at stack 162-05. The SBS cooling tower will be decommissioned as part of the WRMP project.

(6) Gas quenching and cooling towers other than the SBS cooling tower, to be decommissioned as part of the WRMP project.

(7) One (1) quench separator with mist eliminators, to be decommissioned as part of the WRMP project.

(8) One (1) gas cooler and water condenser with sulfur dioxide stripper, to be decommissioned as part of the WRMP project.

(9) Caustic soda storage tanks and sodium bisulfite storage tanks, and handling equipment, to be decommissioned as part of the WRMP project.

(10) One (1) standby incinerator, used only in the event of an emergency, having stack ID S/V 162-01. The standby incinerator will be decommissioned as part of the WRMP project.

(11) One (1) flare, exhausting to stack S/V 162-03 which controls H_2S and VOC emissions during emergency situations, unit start-ups/shut-downs, and preparation of equipment for maintenance. Refinery or natural gas is used as a constant purge stream. Pilot gas is natural gas.

(12) One (1) modular degassing unit, which removes gases that are emitted during the cooling of molten sulfur. Removed gases are vented to the SBS TGU. Removed gases will be vented to the front-end of Claus Trains D and/or E as part of the WRMP project.

(13) Two (2) modular degassing units, to be installed as part of the WRMP project, which remove gases that are emitted during the cooling of molten sulfur. The gases will be vented to the front-end of Claus Trains D and/or E as part of the WRMP project.

(14) Three (3) sulfur pits, (Sulfur Pits A, B, and C) used to store molten sulfur with their vent stacks routed to the B/S TGU and/or the SBS. As part of the WRMP project, the sulfur pits A, B and C will be decommissioned and replaced with sealed sulfur collection drums. These sulfur drums are vented to the SRU A/B/C tailgas lines which are routed to either COT 1 and/or COT 2.

(15) Two (2) new SRU D and E sulfur trains, installed as part of the WRMP project, have two (2) sealed sulfur collection drums which will be used to store molten sulfur. These drums are vented to the SRU D/E tailgas lines, which are routed to either COT 1 and/or COT 2.

(16) One (1) sour water storage tank, identified as TK-431, with a maximum storage capacity of 845,600 gallons and used to store material that has a vapor pressure of less than 0.5 psia. The tank was constructed in 1985 and is equipped with an external floating roof.

(17) One (1) sour water storage tank, identified as TK-410, permitted in 2006, having a maximum storage capacity of 4,351,200 gallons and equipped with an external floating roof. The maximum true vapor pressure of the material stored in this tank is less than 0.5 psia.

(18) Two (2) Claus Offgas Treaters (COT), identified as COT1 and COT2, to be installed as part of the WRMP project, thermal oxidation systems which combust natural gas, each rated at 72 mmBTU/hr, exhausting at stacks S/V 162-06 and 162-07.

(19) Two (2) sulfur storage tanks, identified as TK-315 and TK-316, each with a maximum storage capacity of 1,008,000 gallons and used to store molten sulfur exhausting to stacks S/V 163-09 and 162-10. These tanks will be constructed as part of the WRMP Project and are both fixed roof tanks controlled by a steam blanketed, water eductor system routed back to the process.

(20) One (1) sulfur loading operation to be installed as part of the WRMP Project.

(21) The Sulfur Recovery Plant, after installation of COT1 and COT2, will be connected to the South flare and associated flare gas recovery system FGRS1 (included in Section D.35). The system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(22) Leaks from process equipment, including valves, pumps, pressure relief devices, sampling connection systems, open-ended lines, and flanges.

(23) Miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1 (included in Section D.35).

<u>Main Operating Scenario Pre-WRMP:</u>
Approximately 80% of tailgases from the three trains are sent to the B/S TGU, with the remainder sent to the SBS TGU.
<u>Alternate Operating Scenario #1 Pre-WRMP:</u>
One train and the B/S TGU are not operated. Tailgases from the other two trains are sent to the SBS TGU.
<u>Alternate Operating Scenario #2 Pre-WRMP:</u>
The B/S TGU is not operated. Tailgases from the three trains are sent to the SBS TGU.
<u>Alternate Operating Scenario #3 Pre-WRMP:</u>
The SBS TGU is not operated. Tailgases from the three trains are sent to the B/S TGU.

<u>Main Operating Scenario Post-WRMP:</u>
The tailgases from the five trains are sent to both of the COTs.
<u>Alternate Operating Scenario #1 Post-WRMP:</u>
One of the COTs is not operated and the tailgases from the five trains are sent to the other COT.

(e) (1) Vapor Recovery Unit 100 (VRU-100) identified as Unit ID 241, and Vapor Recovery Unit 200 (VRU-200) identified as Unit ID 231, permitted for turnaround (TAR) in 2008 to repair or replace tower trays and increase existing pumping and cooling capacities. Gasoline and lighter products from the FCUs are separated in the VRUs using a series of distillation towers. The VRUs are connected to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes leaks from process equipment including one (1) compressor (identified as J-3E located at VRU-100), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems. As part of the WRMP Project, there will be upgrades made to various heat exchangers and associated

piping and retraying of distillation towers at VRU 100 and VRU 200. The facility may also include insignificant activities listed in Section A.4 of this permit.

(2) As part of the VRU 100/200 Whiting Atmospheric Relief Project (WARP), permitted in 2008, the hydrocarbon pressure relief discharges that were previously routed to the VRU 100/200 vent stacks, are being re-routed to the VRU flare or associated flare gas recovery system FGRS3 (identified in Section D.35).

(f) (1) The Vapor Recovery Unit 300 (VRU 300), identified as Unit ID 150. Light ends and naphtha are separated in the VRU using a series of distillation towers. This unit is connected to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. As part of the WRMP Project, there will be upgrades made to various distillation towers, compressor K-340, and associated piping at VRU 300. Upon completion of WRMP, some portions of VRU 300 will be connected to the South Flare and associated flare gas recovery system FGRS1 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(A) One (1) off-gas knock out drum (D-400), which exhausts to the VRU flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(B) Leaks from process equipment, including two (2) compressors (identified as K-340 and K-351), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(2) Vapor Recovery Unit VRU 400 for the New Coker (#2 Coker), permitted in 2008, to be installed as part of the WRMP project. This unit is connected to the South Flare and associated flare gas recovery system FGRS1 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes leaks from process equipment, including one (1) compressor (identified as K-401), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems. The facility may also include insignificant activities listed in Section A.4 of this permit.

(g) The Alkylation Unit, identified as Unit ID 140, combines isobutane with butylenes and propylenes to produce alkylate. The alkylate, a high octane naphtha, is blended into gasoline. This unit was built in 1961 and expanded in 1989. This unit is connected to the Alky Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions emitted during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) off gas knock-out drum (D-22), which exhausts to the Alky flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(2) One (1) spent acid stripper drum (D-13), which exhausts to the Alky flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(3) One (1) spent caustic drum (D-32), which exhausts to the Alky flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(4) Leaks from process equipment, including two (2) compressors (identified as K-1 and K-1A), valves, pumps, pressure relief devices, sampling connection systems, and instrumentation and heat exchange systems.

(h) The Propylene Concentration Unit (PCU), identified as Unit ID 145, purifies propylene for sale to chemical plants and eventual manufacture into polypropylene plastic. This unit also has a treating system, which purifies propane. This unit is connected to the Alky Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes a caustic degassing drum (D-100) that is vented to the Alky Flare or FGRS3 and leaks from process equipment, including one compressor (identified as K-104), pumps, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems. This facility may include insignificant activities listed in Section A.4 of this permit.

(i) The Isomerization Unit (ISOM), identified as Unit ID 210, was constructed in 1985 as a conversion of the No.2 Ultraformer. The Isomerization process converts low octane naphtha into high octane gasoline blending components. This unit is connected to the UIU Flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. As part of the MSAT II Compliance project approved in 2011 for construction, one (1) new C-250 Naphtha Splitter, a benzene saturation reactor system, and associated equipment (collectively identified as the Naphtha Splitter Unit) will be installed in the ISOM. The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit.

(1) One (1) natural gas, refinery gas, or liquified petroleum gas-fired Process Heater H-1, rated at 190 mmBTU/hr and vented to stack S/V 210-01.

(2) One (1) Flare Knock-out Drum (ISOM D-18), which exhausts to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35).

(3) Leaks from process equipment, including one (1) compressor (identified as K-1), pumps, valves, process drains and pressure relief devices and heat exchange systems.

(j) The Aromatic Recovery Unit (ARU), identified as Unit ID 242, consists of the ARU 200 section and the ARU 300 section. The primary function is to remove light ends from naphtha to obtain a more desirable reforming feed. Its secondary function is to separate xylene, a chemical feedstock, from the Ultraformer product. The ARU utilizes a series of distillation towers to purify reformer feed and another set of towers to separate chemical feedstocks. The ARU includes the following process units and may also include insignificant activities listed in Section A.4 of this permit.

(1) The following process heaters, which are fired with refinery gas, natural gas or liquified petroleum gas.

Heater Identification	Construction Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-200A	1978	249.5	242-01	None
F-200B	1978	249.5	242-02	None

(2) The ARU is connected to the 4UF flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(3) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connections systems, open-ended lines or valves, flanges and other connectors and heat exchange systems.

(k) The Blending Oil Unit (BOU), identified as Unit ID 250, uses hydrogen to convert sulfur to hydrogen sulfide and remove it from distillate and gas oil streams to meet product specifications. The hydrogen sulfide is sent to the Claus Trains for further processing. The BOU is connected to the 4UF Flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. As part of the WRMP Project, the BOU heater F-401 will be modified by replacing burners, with rated capacity remaining at 35 mmBTU/hr. The facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) One process Furnace F-401, constructed in 1972, and modified as part of WRMP, which vents to stack ID S/V250-01. The furnace is rated at 35 million Btu per hour and is fired by natural gas, refinery gas or liquid petroleum gas.

(2) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(l) No. 2 Treatment Plant, identified as unit 601, removes disagreeable odors from various naphtha streams using a catalytic process. This facility has only fugitive emissions and/or other emissions that are considered insignificant. The No. 2 Treatment Plant was shut down as of December 30, 2008.

(m) No. 4 Treatment Plant, identified as unit 602, removes disagreeable odors from various naphtha and distillate streams using a catalytic process. This facility has only fugitive emissions and/or other emissions that are considered insignificant. The No. 4 Treatment Plant was shut down as of June 17, 2010.

(n) Butane, Propane and Propylene Storage and Loading Facilities, identified as Unit ID 604, includes the following sources of emissions and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) butane storage cavern located in South Tank Field.

(2) Seven (7) pressurized butane storage spheres located southwest of the main Refinery near the J&L Tank Field with a capacity of 1,050,000 gallons each.

(3) Propane (LPG) storage caverns and above-grade pressurized storage vessels located near the J&L Tank Field.

(4) Propane (LPG) railcar loading facilities located near the J&L Tank Field. These can also be used for loading butane into railcars.

(5) Pressurized polymer grade propylene (PGP) and refinery grade propylene (RGP) storage vessels located at the north east end of the Refinery.

(6) Propylene truck and railcar loading facilities located at the north east end of the Refinery, with emissions vented to the PIB flare, which is owned and operated by INEOS USA, LLC (Plant I.D. 089-00076).

(7) One (1) LPG loading area flare stack having stack number S/V 604-01, installed in 1986, which is used as a safety device which burns any vented gases that might result from relieving pressure on equipment.

(8) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connections systems, open-ended line or valves, flanges and other connectors.

(o) The No.3 Ultraformer Unit (No. 3 UF), identified as Unit ID 220, commissioned in 1958 The majority of the unit was shutdown in March 2007, including the H-1, H-2 and F-7 heaters, catalyst filled reactors and the internal scrubbing system, controlling the regeneration vent during the coke burn-off and catalyst rejuvenation steps of the regeneration process. The C-2 Splitter Tower will be shut down and permanently decommissioned as part of the MSAT II Compliance project, approved in 2011 for construction. The unit now consists of the C2 D-18 flare gas separator, the D-24 knock-out drum and associated piping.

The No. 3 Ultraformer is connected to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, preparation of equipment for maintenance and reactor regenerations. The No. 3 Ultraformer includes the following sources of emissions and may include insignificant activities listed in Section A.4 of this permit.

(1) One (1) flare gas separator (C2 D-18) with emissions vented to vessel D-24, which exhausts to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35).

(2) Leaks from process equipment, including one (1) compressor (identified as K-1), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(p) The No.4 Ultraformer Unit (no. 4 UF), identified as Unit ID 224, built in 1972, upgrades low-octane naphtha to gasoline blending material and chemical feedstocks. The front-end of the unit is a desulfurization section. The reforming section consists of a series of process furnaces and catalyst-filled reactors in which the naphtha is heated and converted from straight chain to aromatic compounds. The reactor products are separated by distillation for further processing or blending into gasoline. D-1 will be upgraded to a two bed reactor as part of the WRMP project. The C-6 Ultraformate Splitter will be used as a Dehexanizer as part of the MSAT II Compliance project,

approved in 2011 for construction. The No. 4 Ultraformer includes the following sources of emissions and may also include insignificant activities listed in Section A.4 of this permit:

(1) Nine (9) process heaters, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-1	68	224-01	None
F-8A	163	224-01	None
F-8B	163	224-01	None
F-2	286	224-02	None
F-3	242	224-03	None
F-4	137	224-04	None
F-5	99	224-04	None
F-6	49	224-04	None
F-7	52	224-05	None

(2) The No. 4 Ultraformer is connected to the 4UF flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, preparation of equipment for maintenance, and reactor regenerations.

(3) Six (6) catalyst-filled reactors, which are vented to flare stack S/V 224-06 during the initial catalyst depressuring and catalyst purging steps of the regeneration process.

(4) Leaks from process equipment, including two (2) compressors (identified as K-1 and K-7), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(5) One (1) caustic scrubbing system, controlling the regeneration vent during the coke burn-off and catalyst rejuvenation steps of the regeneration process, which removes HAP emissions. The scrubber system includes:

(A) One (1) caustic scrubber exhausting to stack 224-07;

(B) One (1) carbon adsorption system used to treat waste scrubber liquor prior to disposal; and

(C) Caustic feed unloading, storage, and transfer equipment.

(6) One (1) gas conditioning system, approved in 2013 for construction, consisting of drums, coolers, piping, pumps, and sewer components.

(q) The Hydrogen Unit (HU), identified as Unit ID 698, commissioned in 1993, produces 99+% pure hydrogen needed for the refinery hydrotreating processes. The HU produces high purity hydrogen by reacting steam with methane. The reaction is carried out by heating the mixture in a furnace and reacting it in the presence of a catalyst. The HU includes the following sources of emissions and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) natural gas, refinery gas or liquified petroleum gas fired B-501 Process Heater rated at 366.3 mmBTU/hr, which exhausts at stack S/V 698-01. The Process Heater is equipped with low-NO_X burners.

(2) One (1) DDU Flare exhausting at stack S/V 698-02, burning natural gas as the pilot gas, used to control VOC emissions during emergency situations, unit startups and shutdowns and depressuring equipment for maintenance.

(3) One (1) CO2 vent from the HU process. This vent has the potential to emit small amounts of methanol.

(4) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connections systems, open-ended line or valves, flanges and other connectors and heat exchange systems.

(r) The Distillate Desulfurizer Unit (DDU), identified as Unit ID 700, commissioned in 1993, removes sulfur from petroleum distillates. Distillate feed is mixed with hydrogen, heated in process furnaces and passed over a catalyst bed to convert sulfur compounds to H_2S. The DDU includes the following emissions sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) Process Heater B-301, rated at 64.8 mmBTU/hr and exhausting to stack S/V 700-01. The Process Heater is equipped with low-NO_X burners and burns natural gas, refinery gas, or liquified petroleum gas.

(2) Process Heater B-302, rated at 83.7 mmBTU/hr and having stack ID S/V 700-02. The Process Heater is equipped with low-NO_X burners and burns natural gas, refinery gas, or liquified petroleum gas.

(3) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connections systems, open-ended line or valves, flanges and other connectors and heat exchange systems.

(4) The Distillate Desulfurization Unit is connected to the DDU Flare System. The system is used to control VOC emissions during emergency situations, unit startups and shutdowns and depressuring equipment for maintenance.

(s) The Cat Feed Hydrotreating Unit (CFHU), identified as Unit ID 171, built in 1982, removes sulfur from and improves the quality of gas oil feed to the Fluidized Cracking Units. The CFHU is connected to the No. 4 Ultraformer flare stack. The No. 4 Ultraformer Flare Stack, S/V 2224-06, is used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The CFHU includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) Three (3) process heaters, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-801 A/B	66.5	171-01	low-NO_X burners
F-801C	60.0	171-02	ultra low-NO_X burners

(2) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connections systems, open-ended line or valves, flanges and other connectors and heat exchange systems.

(t) The Catalytic Refining Unit (CRU), identified as Unit ID 201, which removes sulfur from petroleum naphthas and distillates. Naphtha or distillate feed is mixed with hydrogen, heated in process furnaces and passed over a catalyst bed inside one of two reactor trains, identified as D-114 and D-105, to convert sulfur compounds to hydrogen sulfide. Hydrogen sulfide is subsequently removed from the product by distillation followed by scrubbing with an amine. The CRU includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) Two (2) heaters, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-101	72	201-01	Low-NO_X Burners
F-102A	60	201-02	Low-NO_X Burners

(2) The CRU is connected to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(3) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(4) Miscellaneous process vent emissions, which are routed to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35).

Main Operating Scenario:
The CRU operates as a naphtha hydrotreater. Maximum production under this scenario is 27,000 barrels per day.

Alternative Operating Scenario:
The CRU operates as a distillate hydrotreater. Maximum production under this scenario is 40,000 barrels per day.

(u) The Fluidized Catalytic Cracking Unit (FCU) 500, constructed in 1945, identified as Unit ID 230 and rated at 115,000 barrels per day. This facility converts hydrocarbons that boil above 500 ^{o}F into lower molecular weight products, which include gasoline and LPG. The cracking takes place as the gas oil and catalyst stream mix in the reactor. This

process results in the catalyst being coated with coke, which is subsequently burned off in a regenerator. The FCU 500 includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) catalyst regenerator. Flue gas from the regenerator passes through an ammonia injection system, a waste heat recovery unit which generates steam, an Electrostatic Precipitator for particulate matter control, and is exhausted through stack S/V 230-01. The ammonia injection system includes aqueous ammonia injection and handling equipment. Aqueous ammonia is transferred from the FCU 600 SCR system's storage tanks.

(2) Three (3) catalyst storage bins, one each for spent, equilibrium, and fresh catalyst. Particulate emissions from the spent catalyst storage bin, identified as Bin F-52, are controlled by one (1) baghouse, which exhausts to stack S/V 230-03.

(3) FCU 500 is connected to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(4) Leaks from process equipment, including two (2) compressors (identified as J-3D and J-3G), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(5) As part of the FCU 500 WARP, per SPM 089-25488-00453, the FCU 500 blowdown stack will be shutdown and the pressure relief discharges that vent to the blowdown stack will be re-routed to a flare or flare gas recovery system.

(6) The FCU 500 turnaround (TAR) project, per SPM 089-25488-00453, for the repair or replacement of the power recovery turbine, and the air ring for the catalyst regenerator. The increases in emissions from FCU 500 TAR are already accounted for as WRMP project related contemporaneous emissions increases.

(7) Miscellaneous process vent emissions, which are routed to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(v) The Fluidized Catalytic Cracking Unit (FCU) 600, constructed in 1946, identified as Unit ID 240 and rated at 80,000 barrels per day. This facility converts hydrocarbons that boil above 500 ^{o}F into lower molecular weight products, which include gasoline and LPG. The cracking takes place as the gas oil and catalyst stream mix in the reactor. This process results in the catalyst being coated with coke, which is subsequently burned off in a regenerator. The FCU 600 includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) catalyst regenerator. Flue gas from the regenerator passes through a waste heat recovery unit, which generates steam and an Electrostatic Precipitator for particulate matter control. The flue gas is then directed to a selective catalytic reduction (SCR) system, which chemically reduces nitrogen oxide emissions by reaction with injected ammonia, and is exhausted through stack S/V 240-01.

(2) Two catalyst storage bins, one each for equilibrium and fresh catalyst. (Spent catalyst is stored in Bin F-52, which is associated with FCU 500.)

(3) FCU 600 is connected to the FCU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(4) Leaks from process equipment, including two (2) wet gas compressors (identified as J-3D and J-3E), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(5) As part of the FCU 600 WARP, per SPM 089-25488-00453, to shutdown the existing FCU 600 blowdown stack and the pressure relief discharges that were vented to the blowdown stack will be re-routed to a flare or flare gas recovery system.

(6) The FCU 600 turnaround (TAR) project, per SPM 089-25488-00453, for the repair or replacement of the main fractionator overhead condensers, the slurry and pump around system, unit pump replacement, FCU flare tip replacement, and additional controls to reduce plugging on the SCR. The increases in emissions from FCU 600 TAR are already accounted for as WRMP project related contemporaneous emissions increases.

(w) A portion of No. 1 Stanolind Power Station (SPS) constructed in 1928 and identified as Unit ID 501. The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas, are NO_X budget units:

(1) The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Boiler Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
#5 Boiler	265	501-02	None
#6 Boiler	265	501-02	None
#7 Boiler	265	501-02	None

Note: The boilers in No. 1 Stanolind Power Station are scheduled to be shut down as part of Consent Decree 2:96 CV 095 RL.

The No. 1 SPS Boilers 5, 6, and 7 were shut down as of April 1, 2010.

(2) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(x) A portion of No. 3 Stanolind Power Station (SPS) constructed as listed below and identified as Unit ID 503. The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas, are NO_X budget units:

(1) The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Boiler Identification	Installation Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
#1 Boiler	1948	575	503-01	(current) low-NO_X burners, an induced flue gas recirculation (IFGR) system, and an over fired air (OFA) system
#2 Boiler	1948	575	503-02	Per SPM 089-25488-00453: The low-NO_X burners, IFGR and OFA will be replaced by conventional burners and a Selective Catalytic Reduction (SCR) system on Boilers # 1, 2, 3, 4, 6
#3 Boiler	1951	575	503-03	
#4 Boiler	1951	575	503-04	
#6 Boiler	1953	575	503-05	

(2) Five (5) direct-fired duct burners, permitted in 2008 (SPM 089-25488-00453), rated at 41 mmBTU/hr each, equipped with low NO_X burners and controlled by a Selective Catalytic Reduction (SCR) system.

(3) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(y) Hazardous Waste Treatment System:

(1) Dewatering system for processing sludge, per SSM 089-25484-00453, issued May 1, 2008, including dissolved air flotation skimmings (DAF) and API oil/water separator sludge. The dewatering system will be equipped with a wet scrubber and carbon canister system. The feed rate capacity at the DAF/API dewatering system is 60,000 gallons per day. This facility includes the following emission sources and may include insignificant activities listed in Section A.4 of the permit:

(A) Two (2) centrifuges;

(B) Two (2) sludge surge tanks;

(C) One (1) oil/water mixture surge tank;

(D) One (1) enclosed auger transfer system;

(E) One (1) vapor recovery system on the dewatering system including a wet scrubber and carbon canister system.

(2) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(3) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(z) Wastewater Treatment Plant (WWTP), identified as Unit ID 544. This facility treats the water used in the refining process that comes into contact with oil or chemicals. In the first step, the heavier solids are removed at the inlet to the WWTP and the floating oil is skimmed from the surface of the wastewater in the API separator boxes. The oil is then recycled back to the refinery. The water is then aerated in the Air Flotation Unit where additional solid impurities are floated and skimmed. As part of the Lakefront Upgrades (LFU) Project, approved in 2014 for modification, the larger solids in the wastewater will be removed in the new Solids Collection System. Then the wastewater will be routed to tanks TK-5050, TK-5051 and TK-5052, which will operate in parallel and serve as oil-water separators, equalization, and stormwater surge. Floating oil will be separated and skimmed from the tanks and recycled. The water will be routed to the new Dissolved Nitrogen Floatation (DNF) Units to remove suspended solids and oil, which will be floated and skimmed. Thereafter, it moves to the Activated Sludge Plant where special bacteria digest the remaining contaminants. The water then passes through a clarifier and then final filters before being returned to Lake Michigan. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

(1) The following units are equipped with closed vent systems: oil sump P-1, oil sump P-2, solids tank TK-562, which will vent to carbon canisters by no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, installed as a part of the Lakefront Upgrades Project; and Dissolved Air Floatation (DAF) Secondary Boxes, which vent to a biofilter and carbon canisters; Tank 569 is equipped with a conservation vent.

(2) The following units are equipped with a fixed-roof or floating roof: Interceptor Box, Diversion Box (from Tank TK-5051 to DAF), DAF Flash Mixer, DAF Influent Channel, DAF Effluent Channel, DAF Primary Boxes, and DAF Sump.

(3) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5051) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988 and equipped with an external floating roof.

(4) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5050) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988. As part of the Lakefront Upgrades Project, TK-5050 will be equipped with an external floating roof, constructed in 2014.

(5) Seven (7) oil-water/solids separator units enclosed with a fixed-roof: Bar Screen, #7 API Separator Fixed Cover, #7 API Separator Primary Inlet, #7 API Separator Secondary Inlet, #7 API Separator Secondary Outlet, #7 API Separator Inlet Channel Section, and #7 API Separator Gear Boxes.

(6) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5052) having a maximum storage capacity of 11,676,000 gallons, constructed as part of the WRMP Project. This tank is equipped with an external floating roof.

(7) A brine treatment system with four (4) fixed roof tanks equipped with an iron sponge, constructed as part of WRMP project, identified as:

(A) TK-101, with a storage capacity of 128,972 gallons;
(B) TK-102, with a storage capacity of 128,972 gallons;
(C) TK-103, with a storage capacity of 128,972 gallons; and
(D) TK-104, with a storage capacity of 51,580 gallons.

(8) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(A) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(B) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(9) One (1) Solids Collection System, which consists of the J-92 pump lift station and strainer backwash system, with a storage capacity of 5,257 gallons, constructed as part of the Lakefront Upgrades Project.

(10) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(11) Sewer components associated with the Lakefront Upgrades Project.

(aa) Oil Movements, identified as Unit 640. This facility is used to store, blend, and ship products. Gasoline blending components are custom blended into various grades of gasoline. Additive and other compounds are blended into the products to give them their unique characteristics. Furnace oil and other distillates are also blended using components from process units or storage. Crude oil and feedstocks for process units and products are also stored at this location. Product loading operations include the pipeline and railcar racks. This facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) internal floating roof storage tank identified as 3730, storing ethanol, constructed in 1955, with a maximum storage capacity of 1,050,721 gallons.

(2) Ten (10) external floating roof storage tanks storing petroleum hydrocarbon with vapor pressure less than 15 psia, comprising the following tanks:

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3529	1948	858,000
3637	1956 permitted in 2008 for reconstruction (SPM 089-25488-00453)	6,353,000
3901	1956	1,906,000
3902	1956	1,906,000

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3915	1980	6,353,460
3916	1980	13,666,998
3917	1980	25,413,839
3918	1980	13,666,998
3919	1980	13,666,998
3920	1980	13,666,998

(3) Sixty-seven (67) internal floating roof storage tanks, storing petroleum hydrocarbon with vapor pressure less than 15 psia, comprising the following tanks:

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3474	1992	3,734,422
3475	1994	3,865,445
3476	1984	3,085,016
3477	1971	4,066,214
3480	1982	4,026,505
3482	1972	169,426
3483	1924	3,382,264
3484	1996	3,865,445
3486	1979	4,026,505
3487	1980	4,026,505
3488	1994	3,865,445
3489	1996	3,865,445
3492	1925/1971	3,382,000
3493	1995	3,865,445
3510	1949	4,235,640
3511	1973	4,066,214
3512	1958	4,066,214
3513	1971	4,066,214
3514	1984	4,066,214

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3525	1981	4,026,505
3526	1943/1979	4,026,505
3527	1991	3,382,264
3528	1993	3,865,445
3531	1948/1997	857,717
3532	1953	868,306
3533	1953	4,235,640
3534	1955/1973	71,000
3549	1993	588,283
3553	1981	5,070,343
3554	1981	5,070,343
3558	1972/1986	376,501
3600	1993	847,128
3601	1977	3,702,020
3602	1979	3,856,271
3604	1980	3,856,271
3605	1977	3,702,000
3622	1993	3,865,445
3624	1932	3,382,264
3629	1992	3,865,445
3631	1944	3,382,000
3633	1950	5,282,000
3635	1954	5,070,000
3639	1956	6,353,460
3641	1956	6,353,460
3701	1943/1993	3,382,264
3702	1943/1982/1997	3,382,264
3704	1944/1980	3,382,264
3705	1944	3,382,264
3706	1944	3,382,264

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3707	1944/2000	3,382,264
3708	1943	853,895
3709	1943	825,434
3710	1943	2,059,000
3715	1945/1987/1998	3,382,264
3716	1996	3,865,445
3727	1948	857,717
3728	1970	857,717
3860	1993	211,782
3900	1956/2005	1,906,000
3904	1956/1986	3,388,512
3905	1956	6,353,460
3907	1956/1996	3,388,512
3909	1956	3,388,512
3911	1956/1986	3,388,512
3912	1956	6,353,460
3914	1956	3,388,512

(4) Miscellaneous Storage tanks including the following:

Tank ID	Location	Description	Tank Construction Dates	Tank Capacity (gallons)	Vapor Pressure of Liquid (psia)
D-424	4ULTRAFORMER	Methanol Tank	--	3,744	<0.5
F-011	4B TREATER	Casper Dewaterer	1949	17,624	<0.5
TK-0563	WWTP	Aux. Fuel Oil	1971	49,378	<0.5
TK-3228	CRUDE STA	Decanted Oil	1948	596,570	<0.5
TK-3234	CRUDE STA	Decanted Oil	1940	858,298	<0.5
TK-3464	BERRY LAKE	Decanted Oil	1957	2,705,472	<0.5
TK-3465	BERRY LAKE	Plant Fuel	1973	3,413,088	<0.5
TK-3468	BERRY LAKE	TGO	1958	3,381,840	<0.5
TK-3491	SO. TK FLD.	Lsho	1992	3,876,768	<0.5
TK-3496	SO. TK FLD.	Distillate	1992	3,876,768	<0.5
TK-3498	SO. TK FLD.	Amoco Premier Diesel [Future Lsfo]	1929	3,373,413	<0.5
TK-3499	SO. TK FLD.	Amoco Premier	1996	3,870,720	<0.5

Tank ID	Location	Description	Tank Construction Dates	Tank Capacity (gallons)	Vapor Pressure of Liquid (psia)
		Diesel [Future Lsfo]			
TK-3500	SO. TK FLD.	Furnace Oil [Future Hmd]	1996	3,870,720	<0.5
TK-3505	SO. ANNEX	Heater Oil	1949	4,254,768	<0.5
TK-3509	SO. TK FLD.	Furnace Oil	1948	3,381,840	<0.5
TK-3546	SO. TK FLD.	Bronze Dye	1962	16,800	<0.5
TK-3547	SO. TK FLD.	Purple Dye	1962	16,800	<0.5
TK-3548	SO. TK FLD.	Isonox 133	1962	16,800	<0.5
TK3567	--	--	--	17,000	<0.5
TK-3569	MARINE DOCK	DCO	1981	4,796,064	<0.5
TK-3571	MARINE DOCK	HS Resid/Black Oil	1971	5,539,968	>0.5 and <0.75
TK-3572	MARINE DOCK	HS Resid/Black Oil	1971	5,539,968	>0.5 and <0.75
TK-3606	STIGLITZ PK.	Amoco Jet Fuel A [New 1996]	1996	3,701,376	<0.5
TK-3607	STIGLITZ PK.	Amoco Jet Fuel A	1993	3,729,600	<0.5
TK-3609	STIGLITZ PK.	HS Resid	1973	9,652,608	<0.5
TK-3610	STIGLITZ PK.	HS Resid	1973	9,652,608	<0.5
TK-3611	STIGLITZ PK.	HS Resid	1973	8,513,400	<0.5
TK-3613	STIGLITZ PK.	HS Resid	1992	3,876,768	<0.5
TK-3711	IND. TK FLD.	Lcco	1993	2,818,368	<0.5
TK-3712	IND. TK FLD.	Lcco	1945	3,357,600	<0.5
TK-3714	IND. TK FLD.	Distillate/Gas Oil	1999	3,852,576	<0.5
TK-3717	IND. TK FLD.	Fcu Feed Mixed	1943	3,263,190	<0.5
TK-3718	IND. TK FLD.	Gas Oil	1996	3,871,379	<0.5
TK-3719	IND. TK FLD.	Gas Oil	1943	3,357,600	<0.5
TK-3720	IND. TK FLD.	Gas Oil	1946	3,357,600	<0.5
TK-3721	IND. TK FLD.	Gas Oil	1946	3,357,600	<0.5
TK-3722	IND. TK FLD.	Gas Oil	1952	4,227,300	<0.5
TK-3723	IND. TK FLD.	Gas Oil	1954	3,386,880	<0.5
TK-3726	IND. TK FLD.	Amoco Jet Fuel A	1948	857,356	<0.5
TK-3733	IND. TK FLD.	Cru / Bou Distillate Feed	1971	3,383,520	<0.5
TK-3734	IND. TK FLD.	Cru / Bou Distillate Feed	1971	3,383,520	>0.5 and <0.75
TK-3735	IND. TK FLD.	Cru / Bou Distillate Feed	1971	3,411,072	<0.5
TK-3867	SO. TK FLD.	Stadis 450	1967	17,640	<0.5
TK-3868	SO. TK FLD.	Amogard	1953	17,640	>0.5 and <0.75
TK-3869	SO. TK FLD.	Pour Depressant	1956	23,436	<0.5
TK-3872	CRUDE STA	Used Motor Oil	1985	15,120	<0.5
TK3876	South TF	Cetane Improver	1993	14,381	<0.5
TK-3906	J&L TK FLD.	Lsfo	1956	3,381,840	>0.5 and <0.75
TK-3908	J&L TK FLD.	Amoco Premier Diesel	1956	3,381,840	<0.5
TK-3910	J&L TK FLD.	Furnace Oil [Hs]	1956	3,381,840	<0.5
TK-3913	J&L TK FLD.	Furnace Oil [Ls]	1956	3,402,977	<0.5
TK-6078	ASPHALT	HS Resid/Black Oil	1948	1,931,000	<0.5

Tank ID	Location	Description	Tank Construction Dates	Tank Capacity (gallons)	Vapor Pressure of Liquid (psia)
TK-6113	ASPHALT	Paving Base	1944	810,600	<0.5
TK-6114	ASPHALT	Paving Base	1944	810,600	<0.5
TK-6125		Paving Base	1998	3108932	<0.5
TK-6126		Paving Base	1999	3,108,000	<0.5
TK-6127		Paving Base	2000	3,108,000	<0.5
TK-6128		Paving Base	1971	3,225,600	<0.5
TK-6129		Paving Base	2005	3,108,000	<0.5
TK-6148		Paving Base	1948	3,108,000	<0.5
TK-6149		Paving Base	1948	3,108,000	<0.5
TK-6150		HS Resid	1986	810,600	<0.5
TK-6153		HS Resid	1979	1,386,000	<0.5
TK-6248	ASPHALT	Low Sul Resid	1973	7,218,928	<0.5
TK-6249	ASPHALT	Low Sul Resid	1973	7,218,928	<0.5
TK-6250	ASPHALT	HS Resid	1971	7,218,928	<0.5
TK-6251	ASPHALT	Paving Base	1971	7,218,928	<0.5
TK-6252	ASPHALT	HS Resid	1972	7,215,268	<0.5
TK-6253	ASPHALT	Paving Base	1971	7,218,928	<0.5
TK-6261	ASPHALT	HS Resid	1973	451,183	<0.5
TK-6262	ASPHALT	HS Resid	1972	451,183	<0.5
TK-0559	ASU	Out of Service	1989	146,869	--
TK-0560	ASU	Out of Service	1948	587,477	--
TK-0568		Out of Service	Before 1973	--	--
TK-3167		Out of Service	1926	3,361,114	--
TK-3168		Out of Service	1926	1,931,170	--
TK-3169		Out of Service	1926	3,361,114	--
TK-3232	CRUDE STA	Out of Service	1940	857,356	--
TK-3259	CRUDE STA	Out of Service	1951	846,720	--
TK-3260	CRUDE STA	Out of Service	1930	375,986	--
TK-2279	MARINE DOCK	LCCO/DCO Line Wash	1951	85,302	--
TK-3309	CRUDE STA	Out of Service	NA	7,050	--
TK-3373		Out of Service	--	--	--
TK-3471	SO. TK FLD.	Out of Service	1973	7,050	--
TK-3485	SO. TK FLD.	Out of Service	1924	3,373,413	--
TK-3494	SO. TK FLD.	Out of Service	1926	3,373,413	--
TK-3497	SO. TK FLD.	Out of Service	1926	3,373,413	--
TK-3506	SO. ANNEX	Out of Service	1936	3,373,413	--
TK-3507	SO. ANNEX	Out of Service	1936	3,373,413	--
TK-3508	SO. ANNEX	Out of Service	1936	3,366,720	--
TK-3603	STIGLITZ PK.	Out of Service	1922	3,084,480	--
TK-3608	STIGLITZ PK.	Out of Service	1954	3,849,300	--
TK-3713	IND. TK FLD.	Out of Service	1944	3,357,600	--
TK-3903	J&L TK FLD.	Out of Service	1956	3,381,840	--
TK-6222		Out of Service	--	3,000	--
TK-6223		Out of Service	--	211,400	--
TK-6224		Out of Service	--	211,400	--
W-306	MWTP	Out of Service	--	--	--

"--" - no data provided.

(5) One (1) oil-water separator identified as the J&L Separator.

(6) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(7) Two (2) Off-spec Brine Tanks, constructed as part of WRMP project, with internal floating roofs, identified as:

(A) TK-3559, with a storage capacity of 451,214 gallons
(B) TK-3560 with a storage capacity of 1,015,231 gallons

(8) As part of the WRMP project, BP is repurposing two existing tanks (TK-3911 and TK-3728 or an equivalent tank) to store diluent and two existing tanks (TK-3716 and TK-3475) to store heavy virgin naphtha.

(bb) The general facility remediation system, identified as Unit 999. Remediation includes multiple well point systems. The well point system extracts groundwater which may have a small hydrocarbon fraction. Depending on the VOC concentration, emissions generated by these systems may be routed to the atmosphere or to a thermal oxidizer. Additionally, one or more systems may route to the same oxidizer. Each system uses a common horizontal vacuum header to collect groundwater through a series of wells, and any entrained air is discharged through a vent at the vacuum pump. Recovered groundwater is then transferred to either a vapor/liquid separation tank or directly to another unit for further processing/treatment. Remediation includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit.

(1) The following well point systems:

Facility I.D.	Installation Date	S/V I.D.	Normal Venting	Controls
J-136	1993	999-01	Vented Separately	Uncontrolled
J-137	1992	999-02	Vented Separately	Uncontrolled
J-138	1991 Extension 1994	999-03	J-138, J-139 and J-140 are vented with D-138 (vapor/liquid separation tank)	0.685 mmBTU per hour Thermal Oxidizer ITF
J-139	1981	999-04		
J-140	1981	999-05		
J-141	1988 Extension 1993	999-06	Vented Separately	Uncontrolled
J-156	1968-1970	999-07	Vented Separately	Uncontrolled
J-157	1968-1970	999-08	Vented Separately	Uncontrolled
J-158	1968-1970	999-10	J-158, & J-159 vents are common	Electric Catalytic Oxidizer 600 ^{o}F min. temp., @ 1,000 scfm
J-159	1968-1970	999-11		
J-160	1968-1970 Extension 1994	999-12	Vented Separately	Electric Catalytic Oxidizer, 600 ^{o}F min. temp., @ 1,000 acfm

Facility I.D.	Installation Date	S/V I.D.	Normal Venting	Controls
J-161	1992	999-13	Vented Separately	0.685 mmBTU per hour Thermal Oxidizer BLTF
J-162	1996	999-14	Vented Separately	Uncontrolled
J-163	1996	999-15	Vented Separately	Uncontrolled

(cc) The Mechanical Shop, identified as Unit 693. The Mechanical Shop includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) Two (2) Heat Treat Furnaces that are considered insignificant sources.

(2) Leaks from facility fuel gas lines.

(dd) One bulk truck loading facility, identified as the Marketing Terminal, and consisting of one (1) truck loading rack, constructed in 1972 and modified in 1992, comprised of 7 bays used for loading gasoline products and fuel oil. Four bays are dedicated to loading distillates, while the other three bays are dedicated to loading gasoline products. The maximum throughput for the truck loading facility is 1,103,760,000 gallons per year. Emissions of volatile organic compounds are controlled using a vapor combustion unit (identified as VCU).

(ee) Cooling Towers including the following:

(1) One (1) cooling tower (identified as Cooling Tower No.6), constructed in 1996, with a maximum capacity of 20,000 gallons of water per minute. Cooling Tower No.6 is located at the No.12 Pipestill.

(2) Cooling Towers (constructed prior to 1980), with controls installed as part of the WRMP project:

Cooling Tower	Recirculation Rate/Make-up rate (gallons/minute)	Control Devices
Cooling Tower 2*	50,000/1,285	high efficiency liquid drift eliminators
Cooling Tower 3	90,000/1,571	high efficiency liquid drift eliminators
Cooling Tower 4	44,000/1,085	high efficiency liquid drift eliminators

* Half of the Cooling Tower 2 modules were controlled prior to the WRMP Project. Contemporaneous to the WRMP Project the other modules will be controlled with high efficiency drift eliminators.

(3) Cooling Towers to be installed as part of the WRMP project:

Cooling Tower	Recirculation Rate/Make-up rate (gallons/minute)	Control Devices
Cooling Tower 7	22,000/982	high efficiency liquid drift eliminators
Cooling Tower 8	90,000/2956	high efficiency liquid drift eliminators

(4) Existing Cooling Towers affected by the WRMP project:

Cooling Tower	Recirculation Rate/Make-up rate (gallons/minute)	Control Devices
Cooling Tower 5	41,250/814	high efficiency liquid drift eliminators

(ff) One (1) Asphalt Facility used to store, blend and transfer asphalt products. The facility has six blenders used for loading asphalt into railcars and trucks. Process heaters are used to keep certain tanks at the proper temperature for shipping. This facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) The following two (2) process heaters:

Process Heater ID	Heat Input Capacity (mmBTU/hr)	Fuel	Control Device
F-1 Asphalt Heater	12	Natural gas	none
F-2 Steiglitz Park Heater	28	Natural gas	none

(2) The following seven (7) asphalt storage tanks used to store volatile organic liquids that have a vapor pressure less than 0.75 psi:

Identification	Storage Capacity (gallons)	Year Constructed
125	3,108,000	1998
126	3,108,000	1999
127	3,108,000	2000
129	3,108,000	2003
150	1,386,000	1986
569	5,544,000	1981
613	8,866,200	1992

(3) The following twenty-four (24) asphalt storage tanks used to store volatile organic liquids that have a vapor pressure less than 0.5 psi.

Identification	Storage Capacity (gallons)	Year Constructed
78	1,814,400	1947
113	810,600	1944
114	810,600	1944
128	3,225,600	1971
148	810,600	1948
149	810,600	1948
153	932,400	1979
222	210,000	1955
223	210,000	1955
224	210,000	1955
225	361,200	1950
248	6,967,800	1973
249	6,967,800	1973
250	6,967,800	1971
251	6,967,800	1971

Identification	Storage Capacity (gallons)	Year Constructed
252	6,967,800	1972
253	6,967,800	1971
261	441,000	1973
262	441,000	1972
468	3,108,000	1956
571	5,040,000	1971
572	5,040,000	1971
609	5,649,000	1973
611	8,513,400	1973

(4) The following five (5) heated vertical storage tanks, each approved for construction in 2007, each with a fixed cone roof, and each in heavy liquid service, storing volatile organic liquids that have a vapor pressure less than 0.0435 psia, and exhausting to the atmosphere or to a biofilter system for odor and opacity control:

Tank ID	Liquid Stored	Date Approved for Construction	Tank Storage Capacity (gallons)	Maximum Throughput (gallons/year)	Exhaust ID
TK-3573	Trim Gas Oil	2007	966,000	20,160,000	TK-3573
TK-3614	Residual Oil and/or Asphalt	2007	14,154,000	141,120,000	biofilter
TK-3615	Residual Oil and/or Asphalt	2007	14,154,000	141,120,000	biofilter
TK-3616	Trim Gas Oil	2007	2,268,000	16,800,000	biofilter
TK-3617	Trim Gas Oil	2007	2,268,000	16,800,000	biofilter

Under 40 CFR 60, Subpart UU, storage tanks TK-3614 through TK-3617, are each considered an affected facility.

Under 40 CFR 63, Subpart CC, storage tanks TK-3573, TK-3614 through TK3617, are each considered as Group 2 storage vessels that are part of the existing affected source.

(5) The following heated vertical storage tank, with a fixed cone roof, in heavy liquid service, storing volatile organic liquids that have a vapor pressure less than 0.0435 psia, and exhausting to the atmosphere:

Tank ID	Liquid Stored	Construction Date	Tank Storage Capacity (gallons)	Maximum Throughput (gallons/year)	Exhaust ID
TK-3570	Trim Gas Oil	1971	2,730,000	20,160,000	TK-3570

Under 40 CFR 63, Subpart CC, storage tank TK-3570 is considered as a Group 2 storage vessel that is part of the existing affected source.

(6) one (1) truck loading rack, approved for construction in 2007, comprised of six (6) loading bays used for loading liquid asphalt product, with a total maximum loading capacity of 800,000 tons of asphalt product per year, exhausting to the atmosphere or to a biofilter system for odor control.

(7) one (1) rail car loading rack, approved for construction in 2007, comprised of twenty-eight (28) loading bays used for loading liquid asphalt product, with a total maximum loading capacity of 800,000 tons of asphalt product per year, exhausting to the atmosphere or to a biofilter system for odor control.

(8) Equipment leaks of VOC and HAP from valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges and/or other connectors and heat exchange systems.

Under 40 CFR 60, Subpart GGGa, valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges and/or other connectors in VOC service, are considered part of the existing affected source.

(gg) One (1) pipeline (Cogen Steam Transfer Line) connecting BP's boilers (identified as emission units 501 and 503) with Whiting Clean Energy's heat recovery steam operator. The pipeline is used to exchange steam between the two facilities. The pipeline was constructed in 2001.

(hh) One (1) pipeline (US Steel Stream Transfer Line) connecting BP's steam header with US Steel East Chicago (Plant ID #089-00300). This pipeline was constructed 2005 through 2006 and is used to transfer steam from BP to US Steel.

(ii) One (1) Marine Dock Facility used to store and transfer products. The facility has three dock berths. A process heater is used to keep certain tanks at the proper temperature for shipping. As a contemporaneous project to the WRMP Project, gasoline loading at the Marine dock will cease. This facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) natural gas-fired process heater (identified as Marine Dock Heater F-100), having a maximum heat input capacity of 7 mmBTU per hour.

(2) One (1) storage tank (identified as BT-1), constructed in 1990, with a maximum storage capacity of 706,000 gallons and used to store petroleum hydrocarbons with a vapor pressure less than 15 psia. The tank is equipped with a fixed roof and an internal floating roof.

(3) One storage tank (BT-2), constructed in 1968, permitted for modification in 2008 (SPM 089-25488-00453), with a maximum storage capacity of 874,944 gallons, used to store petroleum hydrocarbons with a vapor pressure less than 15 psia, with a fixed roof and an internal floating roof.

(jj) The refinery operates ten hydrocarbon flares. The PIB flare is operated by INEOS. The flares are used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

The flares are identified as follows:

Flare	Stack ID.	Date of Installation	Dimensions	Process Units Normally Controlled by the Flare System *	Maximum Capacity (mmBTU/hr)	Flare Gas Recovery System ID	Pilot Fuel Type
4UF Flare***	224-06	1972	H = 200 ft, D = 2.5 ft.	ARU, CFU, BOU, 4UF	15,000	FGRS4**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
FCU flare***	230-02	1945	H = 200 ft. D = 2.0 ft.	FCU 600	5620	FGRS3**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
UIU Flare***	220-04	1958	H = 199.5 ft. D = 2.5 ft.	ISOM, 3UF, 2TP, CRU	7550	FGRS4**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
VRU Flare***	241-01	Unknown	H = 200 ft. D = 2.0 ft.	VRU 100,VRU200, VRU 300, FCU 500	1596	FGRS3**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
Alky Flare***	140-01	1961	H = 199.5 ft D = 2.5 ft.	PCU, Alky	3920	FGRS3**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
SRU Flare	162-03	1971	H = 300 ft. D = 1.5 ft.	SRU	688	none	Fuel Gas and Natural Gas
DDU Flare	698-02	1993	H = 200 ft. D = 1.5 ft.	DDU, HU, Coker, DHT	6000	none	Fuel Gas and Natural Gas
LPG Flare	604-01	1986	H = 50 ft. D = 1.2 ft.	LPG storage vessels and loading facilities	30	none	LPG
PIB Flare**	2	1982	H = 250 ft. D = 3.0 ft.	RGP/PGP Loading Rack	540,000 lb/hr	none	Fuel Gas and Natural Gas
GOHT Flare***	802-03	Installed as Part of WRMP	H = 316 ft. D = 5 ft	GOHT	N/A	FGRS2 (installed as a part of WRMP)	Natural Gas
South Flare***	800-04	Installed as Part of WRMP	H = 350 ft. D = 6 ft	New Coker (#2 Coker), 12PS, Sulfur Recovery Complex, VRU 300, VRU 400	N/A	FGRS1 (installed as a part of WRMP)	Natural Gas

* - During emergencies or flare outages, some emission units or streams may be controlled by an alternate flare system that complies with the same applicable requirements as the flare normally used to control the emissions for those units.
** - Owned and operated by INEOS USA, LLC. (Plant I.D. 089-00076).
*** - Flares are equipped with a flare gas recovery system. Under normal operation the recovered gas streams will be utilized in the refinery fuel gas system.
**** - Note that FGRS3 and FGRS4 are cross connected via a tie-line, to maximize gas recovery and use of available compressor capacity as needed.

Additionally, the following emission units are associated with the flare gas recovery systems: Associated valves, pumps, compressors (FGRS1: K-103A and K-103B; FGRS2: K-946A and K-946B; FGRS3: K-281, K-282, K-283, and K-284; FGRS4: K-291, K-292, and K-293), pressure relief devices, sampling connection systems, open ended lines or valves, flanges or other connectors, instrumentation, and sewer components.

(kk) The OSBL area includes the pipe alleys, laboratory dock and waste transfer pad. The pipe alleys contain pipes that transfer hydrocarbon streams from one process unit to another or to storage. This facility includes leaks from process equipment, including open-ended valves or lines and flanges and heat exchange systems. This facility also contains area drains and an oil/water separator. This facility may also include insignificant activities listed in Section A.4 of this permit.

(ll) The Distillate Hydrotreating (DHT) Unit, identified as Unit ID 720 and rated at 45,000 barrels per day, which removes sulfur from petroleum distillates. Distillate feed is mixed with hydrogen, heated in a process furnace and passed over a catalyst bed to convert sulfur compounds to H_2S. The DHT Unit was constructed in 2005/2006 and includes the following emission units:

(1) DHT Unit Heater B-601, rated at 35 mmBTU per hour and constructed in May 2005. As part of the WRMP Project, DHT Unit Heater B-601 will be replaced with a 41.9 mmBTU per hour natural gas fired heater, identified as B-601A. NO_X emissions are controlled by ultra low-NO_X burners having an emission rate of 0.04 pounds per million Btu heat input or less. Emissions are exhausted to a stack identified as 720-01. The DHT Heater B-601 was shut down as of July 7, 2010.

(2) Associated valves, pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges or other connectors, and instrumentation and heat exchange systems.

The DHT Unit shares the DDU Flare, used to control VOC emissions during emergency situations, unit startups and shutdowns.

(mm) One (1) tank sludge cleaning facility (identified as Tank Cleaning Facility) with a maximum throughput of 300 gallons per minute of storage tank sludge/cutter stock mix per hour, with VOC and HAP emissions voluntarily controlled using either an electric catalytic oxidizer (identified as F-1) or a wet scrubber/carbon canister system (identified as S-1). The facility is approved for construction in 2007, is operated as a batch process, and consists of the following emission units:

(1) Four (4) mix tanks identified as Mix Tank #1, #2, #3, and #4. Each tank has maximum capacity of 21,000 gallons, with emissions voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(2) Two (2) enclosed centrifuges (identified as Centrifuge #1 and #2) with no process vents.

(3) One (1) diesel-fired boiler (identified as C-1), with a maximum heat input capacity of 8.4 mmBTU per hour burning low-sulfur (less than 0.05% sulfur by weight) diesel fuel. Emissions are exhausted at stack C-1-01. There is no control device for this emission unit.

(4) One (1) diesel-fired air compressor (identified as J-2), with a maximum heat input capacity of 0.84 mmBTU per hour. This compressor is a 120 hp reciprocating internal combustion engine. Emissions are exhausted through vent J-2. There is no control device for this emission unit.

(5) Two (2) diesel-fired process pumps (identified as J-1 and J-3), each having a maximum heat input capacity of 0.70 mmBTU per hour. These pumps are 100 hp reciprocating internal combustion engines. Emissions from pumps J-1 and J-

3 are exhausted through vents J-1 and J-3, respectively. There are no control devices for this emission unit.

(6) Six (6) portable rectangular storage tanks, including:

(A) Two (2) Reclaimed Oil Tanks identified as ROT-1 and ROT-2. Each tank has a maximum storage capacity of 21,000 gallons and is used to store reclaimed sludge and cutter stock. Emissions are voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(B) Three (3) Cutter Stock Tanks identified as CST-1, CST-2, and CST-3. Each tank has a maximum storage capacity of 21,000 gallons and is used to store Cutter Stock. Emissions are voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(C) One (1) Concentrate Tank identified as CT-1. This tank has a maximum storage capacity of 21,000 gallons and is used to store cutter stock and tank sludge mix. Emissions are voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(7) One (1) electric catalytic oxidizer, identified as F-1, a maximum gas flow rate of 400 scfm. Emissions are exhausted at stack F-1-01. Under 40 CFR 60, Subpart J, the catalytic oxidizer is considered a fuel gas combustion device.

(8) Equipment leaks of VOC and HAP from pumps, valves, and connectors. Under 40 CFR 63, Subpart CC, equipment leaks from pumps, valves, and connectors associated with the Tank Cleaning Facility are affected facilities in organic hazardous air pollutant service

(nn) The Gas Oil Hydrotreater (GOHT) Unit, identified as Unit ID 802 and rated at 120,000 barrels per day. The GOHT reduces the sulfur and nitrogen content of the FCU feed and improves the hydrogen content. Operation of the GOHT will enable the FCU to meet gasoline sulfur specifications and to improve FCU conversion yields. The GOHT Unit will be constructed as part of the WRMP Project and includes the following emission units:

(1) Process heaters comprising of:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-901A	47	802-01	Ultra low-NO_X burners
F-901B	47	802-02	Ultra low-NO_X burners

(2) Associated valves, pumps, compressors (K-901A, K-901B, K-901C, and K-902), pressure relief devices, sampling connection systems, open-ended lines or valves, flanges or other connectors, and instrumentation and heat exchange systems.

(3) The GOHT Unit is connected to the GOHT Flare and associated flare gas recovery system FGRS2 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns.

(4) Miscellaneous process vent emissions, which are routed to the GOHT Flare and associated flare gas recovery system FGRS2 (identified in Section D.35).

(oo) The New Hydrogen Unit (New HU), identified as Unit ID 801, owned and operated by Praxair, Inc. and constructed as part of the WRMP Project, produces 99+% pure hydrogen needed for the refinery hydrotreating processes. The New HU produces high purity hydrogen by reacting steam with methane. The New HU heaters HU-1 and HU-2 are equipped with Selective Catalytic Reduction (SCR) for control of NO_X. The New HU heater stacks have continuous emissions monitors (CEMs) for NO_X and CO. The New HU includes the following sources of emissions and may also include insignificant activities listed in Section A.4 of this permit:

(1) Process heaters comprising:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted to	Emission Controls
HU-1	920*	801-01	Low-NO_X burners and selective catalytic reduction
HU-2	920*	801-02	Low-NO_X burners and selective catalytic reduction

* New HU Heaters HU-1 and HU-2 combust both natural gas and PSA tailgas with a fuel ratio of no more than 25% natural gas and the remainder PSA tailgas.

(2) One cooling tower (HU Cooling Tower) rated at 14,000 gallons per minute recirculation rate controlled by high efficiency drift eliminators.

(3) The New HU is connected to the New HU Flare system. The system is used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The New HU Flare will be operated with a water seal or nitrogen purge. As such, there will be no purge gas emissions from the New HU Flare. The New HU Flare exhausts to S/V 801-03.

(4) Associated valves, pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges or other connectors, and instrumentation systems.

(5) One (1) diesel-fueled emergency generator rated at 1,214 HP.

(6) HU steam vent.

A.4 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Paved and unpaved roads and parking lots with public access, including road sweeping [326 IAC 6.8-10-3] [326 IAC 2-7-1(21)(G)(xiii)];

(b) Asbestos abatement projects regulated by 326 IAC 14-10 [326 IAC 2-7-1(21)(G)(xvi)];

(c) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment [326 IAC 6.8-1-2(a)] [326 IAC 2-7-1(21)(G)(vi)(EE)];

(d) Machining where an aqueous cutting coolant continuously floods the machining interface [326 IAC 6.8-1-2(a)] [326 IAC 2-7-1(21)(G)(vi)(BB)];

(e) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal [326 IAC 6.8-10-3] [326 IAC 2-7-1(21)(G)(xii)];

(f) Emission units with PM and PM_{10} emissions less than five (5) tons per year, SO_2, NO_X, and VOC emissions less than ten (10) tons per year, CO emissions less than twenty-five (25) tons per year, lead emissions less than two-tenths (0.2) tons per year, single HAP emissions less than one (1) ton per year, and combination of HAPs emissions less than two and a half (2.5) tons per year [326 IAC 2-1.1-3(e)(1) and 326 IAC 2-7-1(21)(A)-(C)]:

(1) FCU catalyst handling including truck loading/unloading [326 IAC 6.8-1-2(a)];

(2) Power Station soot blows [326 IAC 6.8-1-2(a)];

(3) General excavations for site remediation activities [326 IAC 6.8-10-3];

(4) Fugitive dust from coke yard, sulfur piles, and sulfur pits [326 IAC 6.8-10-3]; and

(5) Soil Screening [326 IAC 6.8-10-3].

(g) Emissions from a laboratory, as defined in 326 IAC 2-7-1(21)(D).

(h) Combustion activities related to the following [326 IAC 2-7-1(21)(G)(i)]:

(1) Space heaters, process heaters, heat treat furnaces, or boilers using the following fuels:

(i) Natural gas, provided the heat input of the unit is equal to or less than 10 mmBTU/hr.

(ii) The following five (5) natural gas-fired hot oil heaters, each approved for construction in 2007, and each considered an insignificant activity, as defined in 326 IAC 2-7-1(21)(G)(i)(AA)(aa):

Process Heater ID	Heat Input Capacity (mmBTU/hr)	Fuel	Control Device
F-300	9.9	Natural gas	none
F-400	9.9	Natural gas	none
H-LG-1	9.9	Natural gas	none
H-LG-2	9.9	Natural gas	none
H-LG-3*	9.9	Natural gas	none

*Hot oil heater H-LG-3 will exhaust to a steam generator that will be used to heat rejected loads of asphalt during unloading.

(iii) Propane, liquified petroleum gas, or butane, provided the heat input of the unit is equal to or less than 6 mmBTU/hr.

(2) Equipment powered by diesel fuel fired or natural gas fired internal combustion engines of capacity equip to or less than 500,000 Btu per hour.

(3) Combustion source flame safety purging on startup.

(i) One (1) fuel dispensing operation, constructed in 2005, dispensing less than or equal to 1,300 gal/day into motor vehicle fuel tanks and with emissions less than the insignificant activity emission thresholds in 326 IAC 2-7-1(21)(A) through (C). The dispensing facility consists of a vapor balance system to control emissions and the following two (2) storage tanks [326 IAC 8-4-6]:

(1) One (1) gasoline storage tank, constructed in 2005, having a maximum storage capacity of 12,000 gallons.

(2) One (1) diesel storage tank, constructed in 2005, having a maximum storage capacity of 6,000 gallons.

(j) The following VOC and HAP storage containers [326 IAC 2-7-1(21)(G)(iii)]:

(1) Storage tanks with capacity less than or equal to one thousand (1,000) gallons and annual throughputs equal to or less than twelve thousand (12,000) gallons.

(2) Vessels storing lubricating oils, hydraulic oils, machining oils, or machining fluids.

(k) Production related activities, including the application of oils, greases, lubricants, and non-volatile material such as temporary protective coatings [326 IAC 2-7-1(21)(G)(vi)(AA)].

(l) Degreasing operations that do not exceed 145 gallons per twelve (12) months, except if subject to 326 IAC 20-6 [326 IAC 2-7-1(21)(G)(vi)(CC)] [326 IAC 8-3-2] [326 IAC 8-3-5].

(m) Cleaners and solvents with a vapor pressure equal to or less than 0.3 psia at 100°F or 0.1 psia at 68°F and for which the combined use for all materials does not exceed 145 gallons per 12 months [326 IAC 2-7-1(21)(G)(vi)(DD)].

(n) Closed loop heating and cooling systems [326 IAC 2-7-1(21)(G)(vi)(FF)].

(o) Ground water oil recovery wells [326 IAC 2-7-1(21)(G)(vii)(BB)].

(p) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume [326 IAC 2-7-1(21)(G)(ix)(AA)].

(q) Water run-off ponds for petroleum coke-cutting and coke storage piles [326 IAC 2-7-1(21)(G)(viii)(BB)].

(r) Any operation using aqueous solvents containing less than or equal to 1% by weight of VOCs excluding HAPs [326 IAC 2-7-1(21)(G)(viii)(DD)].

(s) Non-contact cooling tower systems with either natural draft or forced and induced draft systems not regulated under a NESHAP [326 IAC 2-7-1(21)(G)(viii)(FF)].

(t) Activities associates with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner or operator, that is, an on-site sewage treatment facility [326 IAC 2-7-1(21)(G)(viii)(CC)].

(u) Repair activities including the following [326 IAC 2-7-1(21)(G)(x)]:

(1) Replacement or repair of ESPs, bags in baghouses, and filters in other air filtration equipment.

(2) Heat exchanger cleaning and repair.

(3) Process vessel degassing and cleaning to prepare for internal repairs.

(v) Coke conveying operations, as provided in 326 IAC 2-7-1(21)(G)(xiv).

(w) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment [326 IAC 2-7-1(21)(G)(xix)].

(x) Blowdown for sight glasses, boilers, cooling towers, compressors, or pumps [326 IAC 2-7-1(21)(G)(xx)].

(y) Emergency generators meeting one of the following criteria [326 IAC 2-7-1(21)(G)(xxii)(BB)]:

(1) Gasoline generators not exceeding 110 horsepower.

(2) Diesel generators not exceeding 1,600 horsepower.

(3) Natural gas turbines or reciprocating engines not exceeding 16,000 horsepower.

(z) Other activities associated with emergencies, including on-site fire training approved by the department and stationary fire pump engines [326 IAC 2-7-1(21)(G)(xxii)]

(aa) A warehouse identified as the Calumet Warehouse that includes the following emission sources and may also include other insignificant activities listed in Section A.4 of this permit [326 IAC 6.8-1-2(b)]:

(1) Kewanee Boiler No. 1 with a maximum design capacity of 5.5 mmBTU/hr heat input and is natural gas-fired only, venting to stack, S-1.

(2) Kewanee Boiler No. 2 with a maximum design capacity of 5.5 mmBTU/hr heat input and is natural gas-fired only, venting to stack, S-2.

(3) Kewanee Boiler No. 3 with a maximum design capacity of 5.5 mmBtu/hr heat input and is natural gas-fired only, venting to stack, S-3.

(bb) Routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process, including the following [326 IAC 2-7-1(21)(G)(xvii)]:

(1) Purging of gas lines.

(2) Purging of vessels.

(cc) Flue gas conditioning systems and associated chemicals, such as the following [326 IAC 2-7-1(21)(G)(xviii)]:

(1) Sodium sulfate.

(2) Ammonia.

(3) Sulfur trioxide.

(dd) Purge double block and bleed valves [326 IAC 2-7-1(21)(G)(xxiv)].

(ee) Filter or coalescer media changeout [326 IAC 2-7-1(21)(G)(xxv)].

(ff) Three (3) emergency fire pump engines, identified as Firepump 1, 2 and 3, per SPM 089-25488-00453, one rated at 359 HP and two rated at 460 HP.

(gg) One (1) concrete crushing process, per SPM 089-25488-00453, with a maximum processing capacity of 120 tons per hour, having two (2) transfer points.

(hh) One (1) glycol dehydration unit (GDU) to remove water from the refinery fuel gas system to reduce corrosion, which is composed of a glycol contactor and a stripper. Natural gas is used as the stripping medium The unit consists of the following equipment: a small (approx. 1,500 gal) tank to deliver glycol to the system, a glycol system of approx. 8,000 gal in capacity, heat exchangers and a coalescer, coolers, condensers, a glycol contactor, a glycol regenerator with a reboiler and stripper, and filters (carbon and sock types).

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T089-6741-00453, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch -- Indiana (AE--17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

Northwest Regional Office phone: (219) 464-0233; fax: (219) 464-0553.

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology--based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides, except as otherwise specified in this Section (B.12 – Permit Shield), that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

(h) On January 25, 2007 and November 29, 2007 the U.S. EPA issued Notices of Violation (NOV) to the Permittee for allegedly failing to comply with the provisions set out in 326 IAC 2 and the Clean Air Act, including the Prevention of Significant Deterioration and the nonattainment New Source Review programs, the federal New Source Performance Standards (NSPS), and the National Emission Standards for Hazardous Air Pollutants. In addition, the Notices of Violation issued by U.S.EPA allege violations of the Consent Decree between the United States, et al., and BP entered on August 29, 2001, and amendments thereto. Therefore the Permit Shield in Section B - Permit Shield does not shield the Permittee from possible enforcement actions initiated by U.S. EPA, IDEM or citizens. Compliance with the terms of this permit does not serve as proof of compliance for the emission units or the matters addressed in the NOVs. Following resolution of this enforcement action, IDEM will reopen this permit, if necessary, to incorporate a compliance schedule or any new applicable requirements. The standard language of Section B - Permit Shield does not shield any activity on which the permit is silent.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T089-6741-00453 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch -
- Indiana (AR--18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on--site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)(1) and (c)(1). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

(f) This condition does not apply to emission trades of SO_2 or NO_x under 326 IAC 21 or 326 IAC 10-4.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C **SOURCE OPERATION CONDITIONS**

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.3 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right--of--way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.5 Fugitive Particulate Matter Emissions [326 IAC 6.8-10-3]

Pursuant to 326 IAC 6.8-10-3 (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

(a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(c) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10 %) on a six (6) minute average.

(d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(h) Material processing facilities shall include the following:

(1) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(2) The PM_{10} emissions from building vents shall not exceed twenty--two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(3) The PM_{10} stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(4) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.

(5) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).

(i) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(j) Material transfer limits shall be as follows:

(1) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(2) Where adequate wetting of the material for fugitive particulate emissions control is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.

(3) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:

(A) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.

(B) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).

(k) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the attached Fugitive Dust Control Plan.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty--five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty--five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61- 53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are

applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty--five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty--five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty--five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

(b) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(c) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment, as required in Sections D or

E of this permit. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

(b) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(c) In the event that a breakdown of a COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(d) Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(1) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(3) Method 9 readings may be discontinued once a COMS is online.

(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system Pursuant to 326 IAC 3-5, and 326 IAC 6.8-1).

C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment, as required in Sections D or E of this permit.

(b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(c) Whenever a H_2S continuous emission monitoring system is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24), the Permittee shall measure and record Draeger tube sampling of the fuel gas one time per hour until the primary CEMS or a backup CEMS is brought online.

(d) Whenever the SO_2 continuous emission monitoring system on the FCU 500 or FCU 600 is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record unit feed rate, feed sulfur analysis and SO_x additive injection rate to demonstrate that the operation of the unit continues in a typical manner. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or backup CEM is brought online.

(e) Whenever the NO_x continuous emission monitoring system on the FCU 500 or FCU 600 is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record unit feed rate, ammonia injection rates and regenerator bed temperature to demonstrate that the operation of the unit continues in a typical manner. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or backup CEM is brought online.

(f) Whenever the CO continuous emission monitoring system on the FCU 500 or FCU 600 is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record unit feed rate, regenerator bed temperature and percent excess oxygen via the regenerator process analyzer to demonstrate that the operation of the unit continues in a typical manner. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or backup CEM is brought online.

(g) Whenever the SO_2 continuous emission monitoring system on the SBS TGU is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record outlet furnace temperatures, SBS product pH and density, and SBS product flow rate to demonstrate that the operation of the unit continues in a typical manner. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or backup CEM is brought online.

(h) Whenever the TRS continuous emission monitoring system on the B/S TGU is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record the inlet temperature to the hydrogenation reactor and the flow rate of Stretford solution to the venture scrubbers to demonstrate that the operation of the unit continues in a typical manner. The TGU combustor will be operated during this period. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or backup CEM is brought online.

(i) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 40 CFR 60, Subpart J for affected process heaters, boilers, and flares, and 40 CFR 63, Subpart UUU for SBS TGU, B/S TGU, FCU 500 and FCU 600.

C.13 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less often than once an hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment.

C.14 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]

(a) Pursuant to 326 IAC 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at the source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the

information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.

(b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.

(c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

C.15 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.18 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]

(I) Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow--up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

(f) For the purposes of this Condition:

(1) “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions are, or opacity is, greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement), consistent with any averaging period specified for averaging the results of the monitoring.

(2) “Excursion” shall mean a departure from an indicator range established for monitoring under Section D of this permit, consistent with any averaging period specified for averaging the results of the monitoring.

(II)

(a) CAM *Response to excursions or exceedances.*

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal

without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) *CAM recordkeeping requirements.*

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C -- Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one -hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61--50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.21 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1 (kk)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.22 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 2-3] [40 CFR 64][326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) *at an existing emissions unit*, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C -- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C -- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(ww) and/or 326 IAC 2-3-1(pp), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C -- General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions *unit* shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C -- General Record Keeping Requirements.

(3) The emissions calculated under the actual--to--projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61--53 IGCN 1003
Indianapolis, Indiana 46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C -- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.23 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

C.24 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) As specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the following definitions shall apply throughout the permit:

(1) “Date of Entry” shall mean the date on which Consent Decree (Civil No. 2:12-CV-00207) is entered by the United States District Court for the Northern District of Indiana.

(2) “Date of Lodging” shall mean the date Consent Decree (Civil No. 2:12-CV-00207) is lodged with the United States District Court for the Northern District of Indiana.

(3) “7-day rolling average” shall mean the average daily emission rate or concentration during the preceding 7 days. For purposes of clarity, the first day used in a 7-day rolling average compliance period is the first day on which the emission limit is effective, and the first complete 7-day average compliance period is 7 days later (e.g., for a limit effective on January 1, the first day in the period is January 1 and the first complete 7-day period is January 1 through January 7).

(4) "365-day rolling average" shall mean the average daily emission rate or concentration during the preceding 365 days. For purposes of clarity, the first day used in a 365-day rolling average compliance period is the first day on which the emission limit is effective, and the first complete 365-day average compliance period is 365 days later (e.g., for a limit effective on January 1, the first day in the period is January 1 and the first complete 365-day period is January 1 through December 31).

(5) "12-month rolling average" shall mean the sum of the average rate or concentration of the pollutant in question for the most recent complete calendar month and each of the previous 11 calendar months, divided by 12. A new 12-month rolling average shall be calculated for each new complete month. For purposes of clarity, the first month used in a 12-month rolling average compliance period is the first full calendar month in which the emission limit is effective, and the first complete 12-month rolling average compliance period is 12 calendar months later (e.g., for a limit effective on December 31, the first month in the period is January and the first complete 12-month period is January through the following December).

(6) "Fuel Oil" shall mean any liquid fossil fuel with sulfur content of greater than 0.05% by weight.

SECTION D.0 FACILITY OPERATION CONDITIONS - WRMP Project

Facility Description [326 IAC 2-7-5(14)]

Emissions units - new, modified and affected by WRMP project, including the following:

New Process Heaters
DHT B-601A
GOHT F-901A and F-901B
12 PS H-101A, H-101B and H-102
New Coker (#2 Coker) F -201, F -202, and F -203
New Hydrogen Unit heaters HU-1 and HU-2

Modified Process Heaters
11C PS H-200
BOU F-401

Affected Process Heaters
11A PS H-1X, H-2, H-3
11C PS H-300
4UF F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A, F-8B
ARU F-200A, F-200B
CFHU F-801A, F-801B, F-801C
CRU F-101, F-102A
DDU B-301, B-302
HU B-501
ISOM H-1

Cooling Towers
Existing (affected) Cooling Towers 2, 3, 4, 5
New Cooling Tower 7
New Cooling Tower 8
New HU Cooling Tower

SRU
New Claus Offgas Treaters (COTs) 1 and 2

New Flares
GOHT Flare
South Flare
HU Flare

Fugitive emission components from new and modified units
DHT
GOHT
12 PS
#2 Coker
SRU
OSBL
New HU

New Storage Tanks
TK-6254
TK-315 and TK-316
TK-5052

Brine Treatment System
TK-3559 (Off spec tank 1)
TK-3560 (Off spec tank 2)
TK-101 (Separation tank 1)
TK-102 (Separation tank 2)
TK-103 (Separation tank 3)
TK-104 (Sludge holding tank 1)

Fluidized Catalytic Cracking Units
FCU 500
FCU 600

Other Miscellaneous Units
Marine Dock
VRU 400
Fugitive dust from new Coker (#2 Coker) coke handling
Pumps in Heavy Liquid Service
Leaks from process equipment, including compressors, pumps, valves, process drains and pressure relief devices.

Unrelated Emissions units - new, modified and affected future contemporaneous to WRMP project:

New Storage Tanks
TK-3637
BT-2
Tank 8a

Five (5) duct burners at 3 SPS
Dewatering and thermal desorption process
Three (3) emergency fire pumps
11A WARP
11C WARP
FCU 500 WARP
FCU 600 WARP
FCU 600 TAR
VRU 100/200 WARP

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.0.1 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

(a) Following the issuance of SPM 089-25488-00453 and until the completion of WRMP, the Permittee shall determine, on a monthly basis, the increase in emissions of SO_2, NO_X, PM, PM 10, CO, Pb, Be, Hg, H_2SO_4, and VOC from all new, modified and existing affected emission units at this source, and shall demonstrate, that the net emissions increases from this source remain below significant levels per twelve (12) consecutive month period beginning with issuance of SPM 089-25488-00453, in accordance with the following:

Etotal = Emissions increases from new, modified, and affected emissions units during the past 12 month period
+ emissions increases from non-WRMP related projects during the past 12 month period

- creditable emissions decreases from WRMP related changes and creditable emissions decreases from non-WRMP related projects during the past 12 month period
+ emissions from creditable past contemporaneous increases
– emissions from creditable past contemporaneous decreases.

(b) Emissions from Boilers and Process Heaters (other than the HU-1 and HU-2 heaters) shall be calculated as follows:

(1) Emissions increases each month from the existing modified and affected process heaters and boilers not equipped with a CEMS shall be calculated as follows based on the emission factors in Table D.0.1 or a more representative emission factors as verified through source testing per Condition D.0.4:

$$Emissions\left(\frac{ton}{mo}\right) = \left((HI_A * EF_A) - (HI_B * EF_B)\right) * \frac{1\,ton}{2{,}000\,lb}$$

Where,

HI_A = Actual Heat Input (mmBTU/mo)
HI_B = Baseline heat input (mmBTU/mo)
EF_A = Actual emission factor (lb/mmBTU)
EF_B = Baseline emission factor (lb/mmBTU).

Table D.0.1 Emission Factors in lb/mmBTU

Process Unit	VOC	NO_X	CO	PM	$PM_{10}/PM_{2.5}$	Pb	Hg	Be
11A PS								
H-1X	0.0054	0.166	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
H-2	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
H-3	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
11C PS								
H-200	0.0054	0.275*	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
H-300	0.0054	0.137	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
New #2 Coker								
F -201	0.0054	0.02	0.019	0.0081	0.0081	4.90E-07	1.80E-07	1.18E-08
F -202	0.0054	0.02	0.019	0.0081	0.0081	4.90E-07	1.80E-07	1.18E-08
F -203	0.0054	0.02	0.019	0.0081	0.0081	4.90E-07	1.80E-07	1.18E-08
12 PS								
H-101A	0.0054	0.05	0.019	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
H-102	0.0054	0.05	0.019	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
H-101B	0.0054	0.05	0.019	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
4UF								
F-1	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-8A	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-8B	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-2	0.0054	0.186	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-3	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-4	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-5	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08

Table D.0.1 Emission Factors in lb/mmBTU								
Process Unit	VOC	NO_X	CO	PM	$PM_{10}/PM_{2.5}$	Pb	Hg	Be
F-6	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-7	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
ARU								
F-200A	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-200B	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
BOU								
F-401	0.0054	0.098	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
CFHU								
F-801A	0.0054	0.049	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-801B	0.0054	0.049	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-801C	0.0054	0.036	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
GOHT								
F-901A	0.0054	0.04	0.02	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-901B	0.0054	0.04	0.02	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
CRU								
F-101	0.0054	0.080	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
F-102A	0.0054	0.080	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
DDU								
B-301	0.0054	0.035	0.04	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
B-302	0.0054	0.030	0.04	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
DHT								
B-601A	0.0054	0.040	0.04	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
ISOM								
H-1	0.0054	0.275	0.082	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
HU								
B-501	0.0054	0.068	0.02	0.0075	0.0075	4.90E-07	1.80E-07	1.18E-08
3 SPS Boilers 1, 2, 3, 4, 6 Duct Burners for SCRs	0.0054	0.02	**	0.012	0.010***	4.90E-07	1.80E-07	1.18E-08

* This factor will be 0.05 lb/mmBTU following installation of low NO_X burners.
** CO emissions will be measured using a CO analyzer.
*** Includes $PM_{10}/PM_{2.5}$ generated from SCR

(2) Emissions increases of SO_2 shall be calculated as follows:

$$SO_2\ Emissions\left(\frac{ton}{mo}\right)=\left(D_A * SO_2\ EF_A * \frac{1}{HHV_A} - D_B * SO_2\ EF_B * \frac{1}{HHV_B}\right) * \frac{1\,ton}{2{,}000\,lb}$$

Where,

D_A = Actual Heat Input (mmBTU/mo)
D_B = Baseline heat input (mmBTU/mo)
HHV_A = Actual Fuel gas higher heating value (mmBTU/mmcf)
HHV_B = Baseline Fuel gas higher heating value (mmBTU/mmcf)
SO_2 EF_A = Actual SO_2 emission factor (lb/mmcf)
SO_2 EF_B = Baseline SO_2 emission factor (lb/mmcf).

The SO_2 emission factor is a function of the total sulfur concentration in the fuel gas and is calculated from the Ideal Gas Law as follows:

$$SO_2\ EF = \frac{C * MW * P}{R * T}$$

Where,

C = Fuel gas total sulfur concentration (ppm)
MW = Molecular Weight (lb/lbmol)
P = Pressure (psia)
R = Ideal Gas Constant (psia*ft3/(lbmol*R))
T = Temperature (R)

Until total sulfur continuous emissions monitors are installed on the fuel gas system, total sulfur in the fuel gas shall be determined as follows:

Total sulfur (ppm) = H_2S (ppm) + Non-H_2S sulfur compounds (ppm)

Where,

H_2S (ppm) = concentration of H_2S in fuel gas as measured by existing fuel gas continuous H_2S analyzers.
Non-H_2S sulfur compounds (ppm) = 90.1 ppm (or a revised average concentration based on sampled data)

(3) Sulfuric acid (H_2SO_4) mist emissions shall be calculated as follows:

$$H_2SO_4 = lb\ SO_2\ Emitted * \frac{1\,mol\ SO_2}{64.06\,lb\ SO_2} * \frac{3\%}{100}\frac{mol\ SO_3}{mol\ SO_2} * \frac{1\,mol\ H_2SO_4}{1\,mol\ SO_3} * \frac{98.07\,lb\ H_2SO_4}{1\,mol\ H_2SO_4}$$

(c) Pursuant to SSM 089-32033-00453, emissions increases from FCU 500 and FCU 600 shall be calculated as follows:

(1) SO_2, NO_X, and CO emissions increases or decreases (actual emissions for that month - baseline emissions) shall be calculated from CEMS data collected at the FCU 500 and FCU 600 exhaust stacks using the following formulas:

Emissions (ton/mo) = $\sum^{n}$ [{(C_A x MWpollutant)/1,000,000} x {($Qstack_A/V_m$) x (60 min/hr) x (1 ton / 2,000 lbs)}]$_i$ - [{(C_B x MWpollutant)/1,000,000} x {Q_B x (1 ton / 2,000 lbs)}]

Where:

N = Hours in the month
$Qstack_A$ = Actual hourly average volumetric flow rate of flue gas from FCCU stack, dscf/min; (at 68 °F) calculated from process data or measured by stack flow meter;
C_A = Actual hourly average pollutant concentration (ppmv) dry basis;
Q_B = Baseline rate of flue gas from FCCU stack, lb-mol/month; (at 68 °F)
CB = Baseline pollutant concentration (ppmv) dry basis;
V_M = 385.3 dscf of gas per lb-mol at standard conditions (at 68 °F)

Where the Calculated $Qstack_A$ = Qr + Qesp for FCU 500 and Calculated $Qstack_A$ = Qr + Qesp + Q_{SCR} for FCU 600"

Where:

Qr = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams, dscf/min; (at 68 °F)
Qesp = Volumetric flow rate of penthouse purge air to ESP, dscf/min; (at 68 °F)

$Q_r = [79 \times Q_{AIR} + (100-\%O_{xy}) \times Q_{OXY}] / [100 - \%CO_2 - \%CO - \%O_2]$

Where:

79 = Default concentration of nitrogen and argon in dry air, percent by volume (dry basis);
Q_{AIR} = Volumetric flow rate of dry air to regenerator, dscf/min; (at 68 °F)
$\%O_{xy}$ = Oxygen concentration in oxygen-enriched stream, percent by volume (dry basis);
Q_{OXY} = Volumetric flow rate of oxygen-enriched air stream to regenerator, dscf/min; (at 68 °F)
$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);
%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);
$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis)

(2) VOC and $PM/PM_{10}/PM_{2.5}$ emissions increases or decreases (actual emissions - baseline emissions) shall be calculated based on the increase in the amount of feed to the unit and the calculated coke burn rate combined with the following emission factors:

$$\text{VOC Emissions}\left(\frac{\text{ton}}{\text{mo}}\right) = \left[\text{EF}_A * \text{Feed}_A * \frac{1\text{ ton}}{2{,}000\text{ lb}}\right] - \left[\text{EF}_B * \text{Feed}_B * \frac{1\text{ ton}}{2{,}000\text{ lb}}\right]$$

Where for FCU 500 and FCU 600:

EF_A = 3.3 lb VOC/1000 barrels of feed
$Feed_A$ = Actual Feed (1000 barrels feed/month)
EF_B = 3.3 lb VOC/1000 barrels of feed
$Feed_B$ = Baseline Feed (1000 barrels feed/month)

PM/PM_{10} Emissions (ton/month) = $[EF_A * R_{CA} *(1 \text{ ton}/2000 \text{ lb})] – [EF_B * R_{CB} * (1 \text{ ton}/2000 \text{ lb})]$

Where for FCU 500:

EF_A = Most Recent FCU 500 Stack Test Result for lb PM_{10} per 1000 lb coke burned; Most Recent FCU 500 Stack Test Result for lb PM per 1000 lb coke burned
R_{CA} = Actual FCU 500 coke burn rate (1000 lb/month)
EF_B = 1.2 / 0.9 lb PM/PM_{10} per 1000 lb coke burned
R_{CB} = Baseline FCU 500 coke burn rate (1000 lb/month)

Where for FCU 600:

EF_A = Most Recent FCU 600 Stack Test Result for lb PM_{10} per 1000 lb coke burned; Most Recent FCU 600 Stack Test Result for lb PM per 1000 lb coke burned
R_{CA} = Actual FCU 600 coke burn rate (1000 lb/month)
EF_B = 1.2 / 0.7 lb PM/PM_{10} per 1000 lb coke burned
R_{CB} = Baseline FCU 600 coke burn rate (1000 lb/month)

(d) The Permittee shall control leaks of VOC from pumps, compressors, valves, process drains/sewers, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM, OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

Fugitive VOC emissions from valves, pumps, and flanges shall be determined as follows:

VOC Emissions (tpy) =

$N * (1- CE_{comp}) * [(EF_{leak} * Leak) + EF_{no\text{-}leak} * (1- Leak)] * VOC_{comp}$

Where:

N = No. of components added or removed (valve/pump/flange/drain/sewer/relief device)
VOC_{comp} = Percent VOC service for component
Leak = Fraction of components experiencing leaks
CE_{comp}= LDAR Control efficiency for the type of component (valve/pump/flange/drain/sewer/relief device)
EF_{leak} = EPA's refinery screening emission factor (leak) for type of component
$EF_{no\text{-}leak}$ = EPA's refinery screening emission factor (no leak) for type of component

For purposes of this calculation, new components are considered “ added” on the date that a new or modified process unit starts up,

The decreases in fugitive VOC emissions from valves, pumps, flanges, drains/sewers and pressure relief devices, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for VOC for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

(e) PM and PM_{10} Emissions decreases from existing cooling towers (due to installation of any liquid drift eliminator) shall be calculated based on the following:

Emissions decrease = Baseline Emissions - Actual Emissions

Actual PM/PM_{10} emissions =
(Recirculation Rate + Make-up Rate) (gal/min) x AP42 Ef (0.019 lb/1,000 gal)
$(TLD_{design}/TLD_{AP\text{-}42})$ x $(TDS_{allowable}/TDS_{AP\text{-}42})$

Where:

TLD = Total liquid drift, percentage
TDS = Total dissolved solids, mg/L

(f) Pursuant to SSM 089-32033-00453, emissions from the GOHT and South flares shall be calculated as follows:

Emissions (ton/month) = EF_p x HI_i x 1 ton/2000 lbs

Where:

HI = Total actual heat input for the month, in mmBTU, of all gases burned in Flare i

EF_p = The pollutants-specific emission factor (lb/mmBTU) set out below:

For SO_2:

$$EF_p = \frac{C \times MW \times P \times (1/HHV_A)}{R \times T}$$

Where:

C = Flared gas total sulfur concentration (ppm)
MW = Molecular Weight (lb/lbmol)
P = Pressure (psia)
R = Ideal Gas Constant (psia*ft3/(lbmol*R))
T = Temperature (R)
HHV_A = Actual flare gas higher heating value (mmBTU/mmscf)

For NO_X: EF_p = 0.068 lb/mmBTU (+ fuel nitrogen component)

For VOC: EF_p = 0.14 lb/mmBTU

For CO: EF_p = 0.37 lb/mmBTU

For PM_{10}/2.5: EF_p = 0.0075 lb/mmBTU

For Pb: EF_p = 4.9E-7 lb/mmBTU

For Hg: EF_p = 1.8E-7 lb/mmBTU

For Be: EF_p = 1.18E-8 lb/mmBTU

For H_2SO_4: EF_p = 3% x (SO_2 EF_p) x 98/64.06

When streams normally controlled by the South flare are vented to the VRU flare, the resulting VRU flare emissions shall be included in the flare emissions and calculated as follows:

Emissions (ton/month) = EF_p x HI_{VRU} x 1 ton/2000 lbs

Where:

HI_{VRU} = Total actual heat input for the month, in mmBTU, of all gases that are diverted from the South flare to the VRU Flare.
EF_p = The pollutants-specific emission factor (lb/mmBTU) set out below:

For SO_2:

$$EF_p = \frac{C \times MW \times P \times (1/HHV_A)}{R \times T}$$

Where:

C = Flared gas total sulfur concentration (ppm)
MW = Molecular Weight (lb/lbmol)
P = Pressure (psia)
R = Ideal Gas Constant (psia*ft3/(lbmol*R))
T = Temperature (R)
HHV_A = Actual flare gas higher heating value (mmBTU/mmscf)

For NO_X: EF_p = fuel nitrogen component of diverted gas streams

For H_2SO_4: EF_p = 3% x (SO_2 EF_p) x 98/64.06

(g) Pursuant to SSM 089-32033-00453, emissions from the New Hydrogen Unit heaters HU-1 and HU-2 and the New HU Flare shall be calculated as follows:

(1) Sulfuric acid (H_2SO_4) mist emissions from heaters HU-1 and HU-2 shall be calculated as follows:

$$H_2SO_4 = lb\ SO_2\ Emitted * \frac{1\,mol\ SO_2}{64.06\,lb\ SO_2} * \frac{3\%}{100}\frac{mol\ SO_3}{mol\ SO_2} * \frac{1\,mol\ H_2SO_4}{1\,mol\ SO_3} * \frac{98.07\,lb\ H_2SO_4}{1\,mol\ H_2SO_4}$$

(2) Emissions of SO_2, PM, PM_{10},VOC, Pb, Be, and Hg pollutants from heaters HU-1 and HU-2 shall be calculated as follows:

$$Emissions\left(\frac{ton}{mo}\right) = \left(HI_{NG} * EF_{NG} + HI_{PSA} * EF_{PSA}\right) * \frac{1\,ton}{2{,}000\,lb}$$

Where,:

HI_{NG}= Heat Input for natural gas (mmBTU/mo)
HI_{PSA}= Heat Input for PSA tailgas (mmBTU/mo)
EF_{NG} = Emission factor for natural gas combustion (lb/mmBTU) in each HU-1 and HU-2 using the emission factors in the table below or a more representative emission factor as verified through source testing per Condition D.43.16 or in the case of SO_2 the sulfur content in the natural gas.
EF_{PSA} = Emission factor for PSA tailgas combustion (lb/mmBTU) in each HU-1 and HU-2 using the emission factors in the table below or a more representative emission factor as verified through source testing per Condition D.43.16.

Pollutant	EF Natural Gas (lb/mmBTU)	EF PSA Tailgas (lb/mmBTU)
SO_2:	0.0006	N/A
PM/PM_{10}	0.0067 *	0.0067 *
VOC:	0.0028	0.0028
Pb:	4.90E-07	N/A
Be:	1.18E-08	N/A
Hg:	1.80E-07	N/A

* Includes PM_{10} generated from SCR

(3) Emissions from the New HU Flare shall be calculated as follows:

Emissions (ton/month) = $[(HI_{NGf} * EF_{NGf} + HI_{Otherf} * EF_{Otherf}) * 1 \text{ ton}/2{,}000 \text{ lbs}]$ + pilot gas (ton/month)

Where:

HINGf= Total actual heat input for the month, in mmBTU, of natural gas burned in New HU Flare as a result of routine, or planned non-routine activities (e.g. planned startups and shutdowns of upstream units).

HIotherf= Total actual heat input for the month, in mmBTU, of all other gases other than those from sources that are 100% natural gas burned in the New HU Flare as a result of routine, or planned non-routine activities (e.g. planned startups and shutdowns of upstream units).

EF_{NGf} = Emission factor for natural gas combustion (lb/mmBTU) using the emission factors in the table below or a more representative emission factor as verified through testing.

EF_{otherf} = Emission factor for all other sources other than natural gas (lb/mmBTU) using the emission factors in the table below or a more representative emission factor as verified through testing.

Pollutant	EF_{NGf} (lb/mmBTU)	EF_{otherf} (lb/mmBTU)
NO_X	0.068	0.068 + (fuel nitrogen component if applicable)
CO	0.37	See below
SO_2:	See below	See below
H_2SO_4	See below	See below
$PM/PM_{10}/PM_{2.5}$	0.0075	0.0018
VOC:	0.14	0.028
Pb:	4.90E-07	N/A
Be:	1.18E-08	N/A
Hg:	1.80E-07	N/A

For CO: EF_{otherf} = CO inlet * (1-98% control)

For SO_2:

$$EF = \frac{C \times MW \times P \times (1/HHV_A)}{R \times T}$$

Where:

C = Flared gas total sulfur concentration (ppm)
MW = Molecular Weight (lb/lbmol) (e.g. 64 lb/lbmol for SO_2)
P = Pressure (psia)
R = Ideal Gas Constant (psia*ft3/(lbmol*R))
T = Temperature (R)
HHV_A = Actual flare gas higher heating value (mmBTU/mmscf)

Note: Pressure and Temperature in the above equation is at the conditions HHVa is determined at.

For H_2SO_4: EF = 3% x (SO_2 EF) x 98/64.06

<u>Pilot Gas</u>

Emissions (ton/month) = (FR_{NG} * EF_{NG}) * 1 ton/2,000 lb

FR_{NG}= Flow Rate for natural gas (mmscf per month)
EF_{NG} = Emission factor for natural gas combustion (lbs/mmscf) using the emission factors in the table below or a more representative emission factor as verified through testing.

Pollutant	EF Natural Gas (lb/mmscf)
NO_X	100
CO	84
SO_2:	0.6
H_2SO_4	See below
$PM/PM_{10}/PM_{2.5}$	7.6
VOC:	5.5
Pb:	5.0E-04
Be:	1.2E-05
Hg:	1.80E-04

For H_2SO_4: EF = 3% x (SO_2 EF) x 98/64.06

(4) Fugitive CO emissions from the New HU shall be determined as follows:

CO (tpy) = N * (1 - CE_{comp}) * EF * CO_{comp}

Where:

N = No. of components (valve/pump/flange/relief device) in CO service
CE_{comp} = LDAR Control efficiency for the type of component (valve/pump/flange/drain/relief device)
EF = EPA's SOCMI screening emission factor for type of component*
CO_{comp} = Percent CO service for component

“In CO Service” is components 10% or greater of CO by weight

* EPA Protocol for Equipment Leak Estimates - EPA-453/R-95-017 – Table 2.1, 2.5 and/or Table 2.9

(5) PM and PM_{10} emissions from the HU Cooling Tower shall be calculated based on the following:

Actual PM/PM_{10} emissions =

(Recirculation Rate + Make-up Rate) (gal/min) x AP42 Ef (0.019 lb/1,000 gal) x $(TLD_{design}/TLD_{AP-42})$ x $(TDS_{allowable}/TDS_{AP-42})$

Where:

TLD = Total liquid drift, percentage
TDS = Total dissolved solids, mg/L
$TDS_{allowable}$ = The allowable value as specified in Condition D.43.2(m) or the annual average value measured as per Condition D. D.43.13(a) can be used.

(6) Fugitive VOC emissions from valves, pumps, flanges and relief devices from the New HU shall be determined as follows:

$$VOC\ (tpy) = N * (1- CE_{comp}) * [(EF_{leak} * Leak) + EF_{no\text{-}leak} * (1- Leak)] * VOC_{comp}$$

Where:

N = No. of components (valve/pump/flange/relief device) in VOC service
CE_{comp} = LDAR Control efficiency for the type of component (valve/pump/flange/drain/relief device)
Leak = Fraction of components experiencing leaks
EF_{leak} = EPA's refinery screening emission factor (leak) for type of component
$EF_{no\text{-}leak}$ = EPA's refinery screening emission factor (no leak) for type of component
VOC_{comp} = Percent VOC service for component

(h) The installation and modification of all emission units designated as part of the WRMP project, and all projects resulting in emissions decreases necessary to ensure that this project is minor under 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (nonattainment NSR), shall be completed no later than 180 days from the start-up of the New Coker and the re-start of the No. 12 Pipestill (after the completion of the permitted modifications), whichever occurs later. This shall be considered the completion of the WRMP project, and the end of the contemporaneous period for this project.

D.0.2 Completion of WRMP Definition

No later than 180 days from the start-up of the New Coker and the re-start of the No. 12 Pipestill (after the completion of the permitted modifications), whichever occurs later. This shall be considered the completion of the WRMP project.

Compliance Determination Requirements

D.0.3 Operating Requirements

(a) After the installation of the continuous BTU analyzers at fuel mixing drums, in order to demonstrate compliance with emissions limitations, the continuous BTU analyzer shall be calibrated, maintained, and operated for determining compliance with the firing rate limits for heaters and boilers that are new, modified or affected units related to the WRMP project.

(b) Prior to the installation of the continuous BTU analyzers and during periods of time when the BTU analyzers are down, in order to demonstrate compliance with the firing rate limits on heaters and boilers involved in the WRMP project, the Permittee shall:

(1) Continuously monitor the fuel flow rates at the heaters and boilers;

(2) Conduct a monthly analysis of fuel gas samples taken once per week in order to determine monthly averaged BTU content of the fuel gas in each mixing drum; and

(3) Determine the monthly firing rates for heaters and boilers based on the fuel flow rates at each heater and boiler and the monthly averaged BTU content of the fuel gas in the mixing drums.

D.0.4 Initial Testing Requirements for Existing Affected Emissions Units and 3SPS Boilers

(a) Not later than three (3) years after completion of the WRMP project, the Permittee shall perform the initial performance testing for NOx, CO, PM, PM10, and VOC for no less than fifty percent (50%) of the emissions units listed in Table D.0.4. No later than five (5) years after the completion of the WRMP project, the Permittee shall perform the initial performance testing for NOx, CO, PM, PM10 and VOC for the emissions units in Table D.0.4 not yet tested.

(b) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Table D.0.4
Existing Affected Emissions Units & 3SPS Boilers Initial Performance Testing

Emission Unit	Pollutant			
	CO	PM/PM_{10}	VOC	NO_X
11A PS Heater H-1X	x	x	x	*
11A PS Heater H-2	x	x	x	x
11A PS Heater H-3	x	x	x	x
11C PS Heater H-300	x	x	x	x
ISOM H-1	x	x	x	x
ARU F-200A	x	x	x	x
ARU F-200B	x	x	x	x
4UF F-1	x	x	x	x
4UF F-2	x	x	x	*
4UF F-3	x	x	x	*
4UF F-4	x	x	x	x
4UF F-5	x	x	x	x
4UF F-6	x	x	x	x
4UF F-7	x	x	x	x
4UF F-8A	x	x	x	x
4UF F-8B	x	x	x	x
HU B-501	x	x	x	x
DDU B-301	x	x	x	x
DDU B-302	x	x	x	x
CFHU F-801A	x	x	x	x
CFHU F-801B	x	x	x	x
CFHU F-801C	x	x	x	x
CRU F-101	x	x	x	x
CRU F-102A	x	x	x	x
3SPS #1 Boiler	*	x	x	*

Table D.0.4 Existing Affected Emissions Units & 3SPS Boilers Initial Performance Testing				
Emission Unit	Pollutant			
	CO	PM/PM_{10}	VOC	NO_X
3SPS #2 Boiler	*	x	x	*
3SPS #3 Boiler	*	x	x	*
3SPS #4 Boiler	*	x	x	*
3SPS #6 Boiler	*	x	x	*
3SPS 5 Duct Burners	*	x	x	*

* Equipped with a CEMS for specified pollutant

Recordkeeping and Reporting Requirements

D.0.5 Recordkeeping Requirements

To document the compliance status with Condition D.0.1, the Permittee shall maintain the following records each month, upon issuance of the SPM 089-25488-00453:

(a) The emissions in tons, calculated in accordance with D.0.1, including fugitive emissions, of PM, PM_{10}, VOC, NO_X, CO, Pb, Be, Hg, H_2SO_4, and SO_2, from new emission units installed as part of the WRMP project during that month.

(b) The emissions increases and decreases from WRMP related projects, including modifications, shutdowns, and installation of controls, and emissions increases from existing affected units during the past 12 months.

(c) Emissions increases and decreases from non-WRMP related projects during the past 12 months.

(d) The net emissions increases or decreases as calculated each month in Condition D.0.1(a).

(e) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

D.0.6 Reporting Requirements

A quarterly report of net emissions increases or decreases for the WRMP as calculated each month to document the compliance status with D.0.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1 (35).

SECTION D.1 FACILITY OPERATION CONDITIONS - No. 11 Pipe Still

Facility Description [326 IAC 2-7-5(14)]:

(a) Nos. 11A and 11C Pipe Stills built in 1956, with a rated capacity of 220,800 barrels per day, and identified as Unit ID 120 process crude into various hydrocarbon fractions based on boiling points. This facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) The following process heaters, all of which are fired by natural gas, refinery gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-1X	250	120-01	None
H-2	45	120-02	None
H-3	55	120-03	None
H-200	249.5	120-05	Current: None After WRMP: *Ultra* Low NO_X Burners
H-300	180	120-06	None

(2) Two (2) vacuum hot wells (D-21, constructed in 1990 and D-26, constructed in 1997) and one (1) sump (D-20, constructed in 1990), with D-20, D-21, and D-26 each venting to S/V 120-07, at No. 11 A Pipe Still.

(3) One (1) vacuum hot well (D-300), constructed in 1995 venting to S/V 120-08 at No. 11C Pipe Still.

The vacuum tower overhead system consists of a series of condensers, steam ejectors, and vacuum pumps. The majority of the overhead vapors are condensed and drained to the hotwell, which is pumped back to the front end of the unit for reprocessing. The gas compressors pull the remaining vapor that is not condensed in the overhead system into the wet gas system, where the hydrocarbon is reprocessed by down stream units. A thermocouple system (with temperature alarm) is used to monitor the vacuum on the system.

(4) Leaks from process equipment, including pumps, compressors (K-4 and K-4A at No. 11A Pipe Still and K-300A and K-300B at the No. 11C Pipe Still), pressure relief devices, sampling connection systems, open-ended lines and valves, and heat exchange and instrumentation systems.

(5) One (1) storage tank (identified as Tank 3030) with a maximum storage capacity of 847,000 gallons. This tank was installed in 1957 and is equipped with an external floating roof.

(6) One (1) oil water separation system (identified as Tank 8), with a maximum storage capacity of 124,800 gallons.

(7) One (1) redundant oil water separation system (identified as Tank 8a), permitted in 2008, with a maximum storage capacity of 124,800 gallons, equipped with a carbon canister for VOC control.

(8) As part of the No. 11A PS and No. 11C PS WARP, per SPM 089-25488-00453, the two existing blowdown stacks identified as stacks 11PS-A and 11PS-C will be shutdown, with the pressure relief discharge that was previously routed to the blowdown stacks will be re-routed to the DDU flare, except for T-300 vacuum tower relief discharge and the COVs.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008) the Permittee shall comply with the following PM_{10} emission limitations for No. 11 pipe still (including nos. 11A and 11C pipe still) process heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
H-1X Heater	0.0075	1.863
H2 Vacuum Heater	0.0075	0.335
H3 Vacuum Heater	0.0075	0.41
H-200 Crude Charge	0.0075	1.859
H-300 Furnace	0.0075	1.341

D.1.1.2 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), the Permittee shall comply with the following filterable PM_{10} emission limitations for Nos. 11A and 11C Pipe Still process heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
H-1X Heater	0.031	6.867
H2 Vacuum Heater	0.032	1.440
H3 Vacuum Heater	0.031	1.704
H-200 Crude Charge	0.032	7.866
H-300 Furnace	0.031	4.931

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.1.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC

6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.1.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SSM 089-25484-00453 (issued May 1, 2008), upon startup of the ultra low- NO_X burners on heater H-200, the emissions of NO_X shall not exceed 0.05 pounds per million BTU of fuel gas fired.

(b) The Permittee shall comply with the following limits after completion of the WRMP project:

(1) Annual firing rate and SO_2 emissions limits:

Unit ID	Firing rate (10^3 mmBTU) per 12 consecutive month period	SO_2 emissions (tons per 12 consecutive month period)
H-200	1601.33	8.9
H-1X	1523.36	8.4
H-2	282.95	1.6
H-3	430.99	2.4

(2) Pursuant to SSM 089-32033-00453, H-300 shall comply with the following annual firing rate and SO_2 emission limits:

Unit ID	Firing rate (10^3 mmBTU) per 12 consecutive month period	SO_2 emissions (tons per 12 consecutive month period)
H-300	1,270.20	7.0

(3) CO, VOC, NO_X, and PM_{10} emissions limits:

Heater ID	CO lb/mmBTU)	VOC (lb/mmBTU)	NO_X (lb/mmBTU)	PM_{10} (lb/mmBTU)
H-1X	0.082	0.0054	0.166	0.0075
H-2	0.082	0.0054	0.098	0.0075
H-3	0.082	0.0054	0.098	0.0075
H-200	0.082	0.0054	0.2745*	0.0075
H-300	0.082	0.0054	0.137	0.0075

* 0.05 lb/mmBTU after startup of low- NO_X burners

(4) Pursuant to SSM 089-32033-00453, H-1X, H-2, H-3, H-200, and H-300 shall comply with the following PM emission limits:

Heater ID	PM (lb/mmBTU)
H-1X	0.0075
H-2	0.0075
H-3	0.0075
H-200	0.0075
H-300	0.0075

(c) After the completion of the WRMP project, the two existing blowdown stacks identified as stacks 11PS-A and 11PS-C will be shutdown, with the emergency pressure relief discharge that was previously routed to the blowdown stacks being re-routed to the DDU flare, except for T-300 vacuum tower relief discharge and the COV's.

(d) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.1.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.1.3 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, the Permittee shall comply with the following sulfur dioxide emission limitations for the No. 11 (including Nos. 11A and 11C) Pipe Still process heaters:

Process Heater	SO_2 Limit (lbs/mmBTU)	SO_2 Limit (lbs/hour)
H-1X Heater	0.033	8.25
H-2 Vacuum Heater	0.033	1.49
H-3 Vacuum Heater	0.033	1.82
H-200 Crude Charge	0.033	8.23
H-300 Furnace	0.033	5.94

D.1.4 SO_2 Emission Limitations

Pursuant to Permit CP 089-3053-00003, issued on March 31, 1994, the Permittee shall comply with the following SO_2 emission limitations for No. 11 (including Nos. 11A and 11C) Pipe Still process heaters:

Process Heater	SO_2 Limit (lbs/mmBTU)
H-1X Heater	0.358
H-300 Furnace	0.357

D.1.5 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for process heaters: H-1X Heater, H-2 Vacuum Heater, H-3 Vacuum Heater, H-200 Crude Charge, and H-300 Furnace.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the ”Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207, Heaters H-1X, H-2, H-3, H-200 and H-300 shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas and combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters H-1X, H-2, H-3, H-200 and H-300.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than December 31, 2013, Heater H-200 shall be an affected facility for NO_X as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja for NO_X emissions for process heaters by the date specified in 40 CFR 60, Subpart Ja. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heater H-200.

D.1.6 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12][40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at No. 11A & 11C Pipe Stills.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the No. 11A and 11C Pipe Stills are affected facilities pursuant to 40 CFR 60, Subpart GGGa upon the “Date of Entry” of the Consent Decree entered in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the No. 11A and 11C Pipe Stills no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The No. 11A and 11C Pipe Stills shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect

to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.1.7 Volatile Organic Compounds (VOC) [326 IAC 8-4-2]

(a) Pursuant to 326 IAC 8-4-2(1), the Permittee shall control VOC emissions from the vacuum producing systems at the No. 11A Pipe Still vacuum hot wells (D-20, D-21, and D-26) and No. 11C Pipe Still vacuum hot well (D-300) according to the following:

(1) The Permittee shall not emit any noncondensable volatile organic compounds from the condensers, hot wells or accumulators of any vacuum producing systems at a petroleum refinery.

(b) Pursuant to 326 IAC 8-4-2(2), the Permittee shall equip the wastewater (oil/water) separators Tank 8 and Tank 8a, any forebay, and openings in covers with lids or seals such that the lids or seals are in the closed position at all times except when performing maintenance.

D.1.8 Wastewater / Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14][40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ] [326 IAC 12]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF:

(1) The Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(2) The Permittee shall operate tank 3030 in accordance with the requirements in Sections E.1 and E.3 by complying with the requirements in Section E.9, except as provided for in 40 CFR 63.640(n)(8) and listed in Section E.1.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.1.9 Operating Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued April 24, 2002, effective June 1, 2003, “fuel oil” shall not be used as a fuel for the Nos. 11A and 11C Pipe Stills Heaters H-1X, H-2, H-3, H-200 and H-300.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with Condition D.1.2, following the installation of the Ultra low- NO_X burners on the Heater H-200, the Heater H-200 shall operate using only Ultra low- NO_X burners.

(c) Pursuant to Permit SSM 089-25484-00453, issued May 1, 2008, and in order to demonstrate compliance with Condition D.1.2, after the completion of the WRMP project, the pressure relief discharges that were previously routed to the blowdown stacks will be

routed to the DDU flare, except for T-300 vacuum tower relief discharge and the COV's. The flare must be operated with a flame present at all times that 11A PS or 11C PS is in operation.

D.1.10 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the Permittee shall install, maintain, and continuously operate Ultra-Low NO_X burners on Heater H-1X.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of NO_X from Heater H-1X shall not exceed 0.06 lb/mmBTU based on a “12-month rolling average”.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in H-1X, H-2, H-3, H-200 and H-300 shall not exceed 70 ppmvd total sulfur calculated as H_2S on a “12-month rolling average” basis.

D.1.11 Compliance Determination Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.1.3 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the NO_X emissions limit in Condition D.1.2(a) for Heater H-200 and H-1X shall be calculated using 40 CFR Part 60, Appendix A, Method 19 and either the 12-month rolling average NO_X concentration as determined by CEMS (after the installation of the CEMS required by Condition D.1.13(b))) or the NO_X concentration measured in the most recent stack test demonstrating compliance (prior to the installation of the CEMS required by Condition D.1.13(b)).

D.1.12 Performance Testing Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with the emission limits in Condition D.1.2(b)(3), the Permittee shall conduct performance tests to measure emissions of NO_X from Heater H-300 once every five (5) years. For the measurement of NO_X emissions, the Permittee shall comply with the performance test protocols established by EPA Method 7E in conjunction with either EPA Method 19 or EPA Methods 1, 2, 3 and 4, or an EPA-approved alternative test method.

Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee’s requirements with regards to the initial compliance demonstration for NO_X testing for Heater H-300.

(b) Pursuant to SSM 089-32033-00453, the Permittee shall perform NO_X testing of Heaters H-2 and H-3 at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee’s requirements with regards to the initial compliance demonstration for NO_X testing of Heaters H-2 and H-3.

(c) Pursuant to SSM 089-32033-00453, the Permittee shall perform PM, PM_{10}, CO, and VOC testing of Heaters H-1X, H-2, H-3, and H-300 at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee’s

requirements with regards to the initial compliance demonstration for PM, PM_{10}, CO, and VOC testing of Heaters H-1X, H-2, H-3, and H-300.

(d) Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the ultra low- NO_X burners, the Permittee shall perform PM, PM_{10}, CO, and VOC testing of Heater H-200. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(e) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.13 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in Heaters H-1X, H-2, H-3, H-200 and H-300. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and to demonstrate compliance with Conditions D.1.2(a) and D.1.10(b),by no later than December 31, 2013 the Permittee shall install, operate, calibrate and maintain a NO_X CEMs on Heaters H-1X and H-200. The Permittee shall install, certify, calibrate, maintain, and operate the NO_X CEMS in accordance with the provisions of 40 CFR § 60.13 that are applicable to CEMs (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B. Unless Appendix F requirements are specifically required by NSPS or state regulations, then in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct either a RAA or a RATA on each CEMS at least once every three (3) years. The Permittee shall conduct a Cylinder Gas Audit each Calendar Quarter during which a RAA or a RATA is not performed.

(c) In order to demonstrate compliance with Conditions D.1.2 and D.1.10, the Total Sulfur Continuous Analyzer and the NO_X emission monitoring systems (CEMS) shall be calibrated, maintained, and operated for determining compliance with SO_2 and NO_X emissions limits for H-1X, H-2, H-3, H-200 and H-300 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.14 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.15 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.1.3 and D.1.9, the Permittee shall maintain a daily record of the following for Nos. 11A and 11C Pipe Stills:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.1.1, Permittee shall maintain records for the Nos. 11A and 11C Pipe Still process heaters as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.1.5, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.1.6(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR Plan.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 60, Subparts GGGa to document the compliance status with Conditions D.1.6(b) and (c), the Permittee shall keep records as specified in Sections E.1, E.4, E25 and E26.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.1.8(a)(1), the Permittee shall keep records as specified in Sections E.1 and E.3.

(g) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.1.8(a)(2), the Permittee shall keep records as specified in Sections E.1, E.3, and E.9.

(h) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.1.8(b), the Permittee shall keep records as specified in Section E.6.

(i) In order to document the compliance status with Condition D.1.2, the Permittee shall maintain records of monthly firing rates and SO_2 emissions for H-1X, H-2, H-3, H-200, and H-300.

(j) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.1.2, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:

(A) design, installation, and testing of all elements of the monitoring system, and
(B) required corrective action or compliance plan activities.

(3) All maintenance logs, calibration checks, and other required quality assurance activities,

(4) All records of corrective and preventive action, and

(5) A log of plant operations, including the following:
(A) Date of facility downtime,
(B) Time of commencement and completion of downtime, and
(C) Reason for each downtime.

(k) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligation with regards to the records required by Paragraphs (a), (b), (d), (i), and (j) of this condition.

D.1.16 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.1.3, D.1.4 and D.1.9, the Permittee shall submit a report to the IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour for Nos. 11A and 11C Pipe Still process heaters.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.1.5, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.1.6(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 60, Subparts GGGa to document the compliance status with Conditions D.1.6(b) and (c), the Permittee shall submit records as specified in Sections E.1, E.4, E25 and E26.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.1.8(a)(1), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.1.8(a)(2), the Permittee shall submit reports as specified in Sections E.1, E.3, and E.9.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.1.8(b), the Permittee shall submit reports as specified in Section E.6.

(h) In order to document the compliance status with Condition D.1.2, the Permittee shall submit a quarterly summary of the monthly firing rates and SO_2 emissions for heaters H-200, H-300, H-1X, H-2, and H-3 not later than thirty (30) days after the end of the quarter being reported.

(i) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Condition D.1.2 and D.1.11, the Permittee shall submit reports of excess SO_2 emissions at heaters H-1X, H-2, H-3, H-200, and H-300, and excess NO_X emissions at heaters H-1X and H-200 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments

(j) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (h), and (i) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.2 FACILITY OPERATION CONDITIONS - No. 11B Coker and Coke Pile, New Coker (#2 Coker) and Coke Handling System

Facility Description [326 IAC 2-7-5(14)]:

(b) Cokers

(1) No. 11B Coker, which processes heavy crude fractions into coke, and Coke Pile. These facilities are identified as Unit 120 and are rated at 2,000 tons of coke per day. The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(A) Four (4) process heaters comprising:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-101 H-102 H-103 H-104	200 (total)	120-04	None

(B) Storage and handling of the bulk material. Fugitive emissions are controlled by keeping the coke wetted and having a 15' sheet piling wall surrounding the coke pile. The coke pile height will not exceed 15'.

(C) The No. 11B Coker is connected to the DDU flare system. The system is used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(D) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connection systems, open ended lines or valves, flanges and other connectors and heat exchange systems.

(Note: The No. 11B Coker and existing Coke Handling System, heaters H-101, H-102, H-103, and H-104 will be replaced by the New Coker (#2 Coker) and new Coke Handling System and heaters F-201, F-202, and F-203 as part of the WRMP project, identified later in this section).

(2) New Coker (#2 Coker), constructed as part of WRMP project, which processes heavy crude fractions into coke, and new Coke Handling System. These facilities are identified as Unit 800 and are rated at 6,000 tons of coke per day. The New Coker (#2 Coker) heaters F-201, F-202, and F-203 are equipped with Selective Catalytic Reduction (SCR) for control of NO_X. The New Coker (#2 Coker) heater stacks have continuous emissions monitors (CEMS) for NO_X and CO. The facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(A) Process heaters comprising:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-201	208	800-01	Ultra Low NO_X burners and selective catalytic reduction
F-202	208	800-02	Ultra Low NO_X burners and selective catalytic reduction
F-203	208	800-03	Ultra Low NO_X burners and selective catalytic reduction

(B) Storage and handling (including up to 10 transfer points) of the bulk material comprised of a partially enclosed crusher, enclosed conveyors, enclosed storage, day bins, and rail car load out under the main operating scenario. In order to minimize fugitive emissions from the coke handling process, transfer points 1 and 10 will include enclosed conveyors and transfer points 2 through 9 will use enclosed buildings, and water sprays. Coke handling operations will be expected to operate under this main operating scenario for at least 95% of operating hours annually. There will also be an alternative operating scenario which will consist of three enclosed conveyors with unenclosed transfer points. Coke handling operations are expected to operate under this alternate operating scenario for no more than 5% of operating hours annually.

(C) The New Coker (#2 Coker) is connected to the South flare and associated flare gas recovery system FGRS1 (included in Section D.35). The system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(D) One (1) storage tank, identified as TK-6254, with a maximum storage capacity of 14,028,000 gallons storing coker resid at a vapor pressure less than 0.5 psia. Tank TK-6254 is equipped with a fixed roof and controlled by an iron sponge.

(E) Six (6) natural gas fired heaters rated at 1.0 mmBTU/hr each used for heating tank TK-6254.

(F) Associated valves, pumps, compressors, pressure relief devices, sampling connection systems, open ended lines or valves, flanges or other connectors, instrumentation and heat exchange systems.

(G) Miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1 (included in Section D.35).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

(a) Until the shutdown of the No. 11B Coker and Coke Pile and the heaters identified as H-101, H-102, H-103, H-104, pursuant to 326 IAC 6.8-2-6 (as published in the Indiana

Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008) PM_{10} emissions from the stack serving No. 11 pipe still furnaces H-101, H-102, H-103, and H-104 coke preheaters shall not exceed 0.0075 lb/mmBTU and 1.49 lb/hr (total).

(b) Until the shutdown of the No. 11B Coker and Coke Pile and the heaters identified as H-101, H-102, H-103, H-104, pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

(c) Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from each of the New Coker (#2 Coker) stacks 800-01, 800-02, and 800-03 shall not exceed 0.03 grains per dry standard cubic foot.

D.2.1.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8]

Until the shutdown of the No. 11B Coker and Coke Pile and the heaters identified as H-101, H-102, H-103, H-104, pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005) filterable PM_{10} emissions from the stack serving No. 11 pipe still furnaces H-101, H-102, H-103, and H-104 coke preheaters shall not exceed 0.004 lb/mmBTU and 0.741 lb/hr (total).

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.2.1.1 as part of the Indiana State Implementation Plan.

D.2.2 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) After the permanent shutdown of No. 11 B Coker and Coke Pile, the throughput of coke processed at the New Coker (#2 Coker) shall not exceed 2,190,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the coke handling operations shall not operate under the alternative operating scenario for more than 438 hours per twelve (12) consecutive month period.

(b) The No. 11B Coker, Coke Pile, and heaters H-101, H-102, H-103, and H-104 shall be permanently shutdown as part of the WRMP project.

For each of the heaters F-201, F-202, and F-203:

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SSM 089-25484-00453, issued May 1, 2008, the emissions of NO_X from each heater shall not exceed 18.2 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The emissions of VOC shall not exceed 0.0054 pounds per million BTU.

(e) The emissions of SO_2 from each shall not exceed 10.1 tons per 12 consecutive month period, with compliance determined at the end of each month.

(f) Pursuant to SSM 089-32033-00453, the emissions of PM shall not exceed 0.0081 pounds per million BTU.

(g) The emissions of PM_{10} shall not exceed 0.0081 pounds per million BTU.

(h) The emissions of CO from each shall not exceed 17.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(i) The Permittee shall comply with the following fuel usage limits per twelve (12) consecutive month period, with compliance determined at the end of each month:

Unit ID	Firing rate limit (10^3 mmBTU) per 12 consecutive month period
F-201	1822.1
F-202	1822.1
F-203	1822.1

(j) Pursuant to SSM 089-32033-00453, each of the six (6) natural gas fired heaters rated at 1.0 mmBTU/hr each used for heating tank TK-6254 shall comply with the following:

SO_2 (lb/mmBTU)	CO (lb/mmBTU)	VOC (lb/mmBTU)	NOx (lb/mmBTU)	PM (lb/mmBTU)	PM_{10} (lb/mmBTU)
0.0006	0.082	0.0054	0.098	0.0075	0.0075

For heavy liquid pumps:

(k) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.2.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

For the coker feed tank TK-6254:

(l) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, emissions of H_2S from the TK-6254 shall not exceed 2.84 tons per rolling 12 month period, with compliance determined at the end of each month. Emissions during periods when the iron sponge is offline for maintenance shall be included in determining compliance with this emission limit.

(m) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, emissions of VOC from the TK-6254 shall not exceed 10.0 tons per rolling 12 month period, with compliance determined at the end of each month.

Compliance with the coker throughput limits and limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.2.3 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Until the shutdown of the heaters identified as H-101, H-102, H-103, H-104:

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide emissions from the H-101, H-102, H-103, and H-104 No. 11B Coker process heaters shall each not exceed 0.033 lbs/mmBTU and the total sulfur dioxide emissions from all four process heaters shall not exceed 6.60 lbs per hour.

D.2.4 Volatile Organic Liquid Storage Vessels [326 IAC 8-9-6]

Pursuant to 326 IAC 8-9-6(b), for storage tank TK-6254, which is used to store liquids with vapor pressures less than 0.5 psia, the Permittee shall comply only with the recordkeeping requirements specified in Condition D.2.17(h).

D.2.5 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Until the shutdown of the heaters identified as H-101, H-102, H-103, H-104, pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for the No. 11B process heaters H-101, H-102, H-103, and H-104 .

(b) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the date of initial start-up, Heaters F-201, F-202 and F-203 shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters F-201, F-202 and F-203.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207, Heaters F-201, F-202 and F-203 shall be affected facilities for NO_X as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja for NO_X emissions for process heaters by the date specified in 40 CFR 60, Subpart Ja. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters F-201, F-202 and F-203.

(d) Pursuant to SSM 089-32033-00453, upon startup of the New Coker (#2 Coker), pursuant to 40 CFR 60, Subpart Ja, the Permittee shall comply with the delayed coking unit work practice requirements specified in Section E.18 for the #2 Coker.

D.2.6 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the 11B Coker and the #2 Coker.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the #2 Coker is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the #2 Coker no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(d) Until shutdown of the 11B Coker, pursuant to 40 CFR 60, Subpart GGG, the Permittee shall comply with the requirements specified in Sections E.4 and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the 11B Coker.

(e) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the 11B Coker is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the 11B Coker no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The 11B Coker shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.2.7 Hazardous Air Pollutants (HAP)[326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the storage tank TK-6254 shall comply with the requirements under 40 CFR 63.640(l)(3) through l(3), as specified in Section E.1.

D.2.8 Wastewater / Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF]] [40 CFR 60, Subpart QQQ] [326 IAC 12]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain

systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.2.9 NSPS Requirements [326 IAC 12-1] [40 CFR 60, Subpart UU]

Pursuant to 40 CFR 60.470, the Permittee shall comply with the requirements specified in Section E.17 for Coker Feed Tank TK-6254.

D.2.10 Lake County Fugitive Particulate Matter Control Requirements [326 IAC 6.8-10]

The Permittee shall comply with the following for the No. 11B Coker and Coke Pile until it is permanently shutdown, and for the New Coker (#2 Coker) and Coke Handling System upon startup:

Pursuant to 326 IAC 6.8-10-3(3)(A), (3)(B), (5), and (6) (formerly 326 IAC 6-1-11.1(d)(3)(A), (3)(B), (5), (6)(A) and (d)(6)(B)), the Permittee shall comply with the opacity limitations in Section C - Fugitive Dust Emissions) for batch material transfer, wind erosion from storage piles, and material transfer by front end loader and truck. Opacity from the activities shall be determined as follows:

(a) Batch Transfer - The average instantaneous opacity shall consist of the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) batch loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

(b) Wind Erosion from Storage Piles - The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. The limitations may not apply during periods when application of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds. During such periods, the company shall continue to implement all reasonable fugitive particulate control measures and maintain records documenting the application of measures and the basis for a claim that meeting the opacity limitation was not reasonable given prevailing wind conditions.

(c) Material Transported by Truck or Rail - Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or railroad car. Material transported by truck or rail that is enclosed and covered shall be considered in compliance with the inplant transportation requirement.

(d) Material Transported by Front End Loader or Skip Hoist - Compliance with this limitation shall be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

D.2.11 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1. Requirements for the South Flare and FGRS1 are included in Section D.35.

Compliance Determination Requirements

D.2.12 Operating Requirements

(a) Until the shutdown of the No. 11B Coker and the associated emissions units:

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued April 24, 2002, effective June 1, 2003, "fuel oil" shall not be used as fuel for the No. 11B Coker furnaces H-101, H-102, H-103 and H-104.

.

(b) Until the shutdown of the No. 11B Coker and the associated emissions units:

Pursuant to 326 IAC 6.8-10-4 (formerly 326 IAC 6-1-11.1) the Permittee shall control fugitive particulate matter emissions from No. 11B Coker and Coke Handling System according to the Fugitive Dust Control Plan (FDCP), submitted on December 9, 2008 and December 7, 2011, included as Appendix C, or the most recent version approved by IDEM. If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require that the FDCP be revised and submitted for approval.

(c) Pursuant to 326 IAC 6.8-10-4 (formerly 326 IAC 6-1-11.1), the Permittee shall control fugitive particulate matter emissions from the New Coker (#2 Coker) and Coke Handling System according to the Fugitive Dust Control Plan (FDCP) submitted on December 9, 2008 and December 7, 2011, included as Appendix C, or the most recent version approved by IDEM. If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emissions limitations, IDEM, OAQ may require that the FDCP be revised and submitted for approval.

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with Condition D.2.2, the Permittee shall operate the heaters F-201, F-202, and F-203 using only Ultra low-NO_X burners.

(e) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with Condition D.2.2, the SCRs shall “continuously operate” for heaters F-201, F-202, and F-203. As specified by the Consent Decree entered in Civil No. 2:12-CV-00207, “continuously operate” shall mean, with respect to SCR, that it shall be used at all times the associated unit is in operation, except as necessary for consistency with the manufacturer’s specifications and good engineering and maintenance practices for such equipment and the unit.

(f) Pursuant to Permit SSM 089-25484-00453, issued May 1, 2008, and in order to comply with Condition D.2.2, the Permittee shall use wet suppression to control emissions of PM and PM_{10} from transfer points 1 through 10 at New Coker (#2 Coker) as necessary to

ensure that the coke processed has a moisture content greater than eight percent (8%). The suppressant shall be applied in a manner and at a frequency sufficient to ensure compliance with Condition D.2.2.

D.2.13 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, "fuel oil" shall not be burned in #2 Coker Heaters F-201, F-202 and F-203 and the six (6) natural gas fired heaters used for heating tank TK-6254.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in F-201, F-202 and F-203 shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon initial startup of the #2 Coker, the Permittee shall not commence Coke Drum Venting until the "Coke Drum Overhead Pressure" is 2.0 psig or less.

As specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the "Coke Drum Overhead Pressure" shall mean the difference between the absolute pressure inside a Coke Drum and atmospheric pressure, expressed as psig, as measured on the coke drum overhead vapor line, during the coke steaming and quenching operations prior to commencing Coke Drum Venting.

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon initial startup of the #2 Coker, pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall comply with the following operating limits for the #2 Coker:

(1) Total Quench Water added to a coke drum shall be at least 260,000 gallons per cycle or until the water reaches the high level trip in the Coke drum, whichever is less; and

(2) "Quench Water Soak Time" shall be at least 45 minutes per cycle.

As specified by the Consent Decree entered in Civil No. 2:12-CV-00207, "Quench Water Soak Time" shall mean the duration of time from the end of the Quench Water Fill Time and the start of Quench Water draining.

(e) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the initial startup of the #2 Coker, pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, for all components and pieces of equipment within the Quench Water System other than the Coke Pit, the Maze (coke fines settling basin), clean water sump and Quench Water Tank, the Permittee shall maintain a hard-piped system that has no emissions points to the atmosphere.

(f) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the initial startup of the #2 Coker, pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall use only the following for the #2 Coker Quench Water Make-Up:

(1) Water that is fresh (i.e., water brought into the Whiting Refinery that has not been in contact with process water or process wastewater);

(2) Non-contact cooling water blowdown;
(3) Water that has been stripped in a sour water stripper;
(4) Water from other refinery sources where the water has a TOC concentration of less than 745 ppm and a total sulfide concentration of less than 35 ppm; or
(5) Some combination of water from 1-4.

(g) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the initial startup of the #2 Coker, pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall not feed or dispose of any materials with a TOC concentration of 745 ppm or greater into any #2 Coker Coke Drum during the quench cycle.

(h) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Coker Feed Tank (TK-6254) shall be equipped with a fixed roof, shall be nitrogen blanketed and shall be vented to an iron sponge control system except during periods when the iron sponge is offline for maintenance.

(i) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Coke Pit shall have walls on all four sides that are at least forty feet (40') above the floor of the Coke Pit.

D.2.14 Compliance Determination Requirements

(a) Until the shutdown of the No. 11B Coker and heaters, pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.2.3 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the NO_X in Condition D.2.2(c) for Heaters F-201, F-202, and F-203 shall be calculated using the following equation:

E_{tpy} = lb/mmBTU [NO_X] * H * 1 ton/2000 lbs.			
Where:			
	E_{tpy}	=	Stack [NO_X] emissions in tons per year
	lb/mmBTU	=	lb/mmBTU calculated using 40 CFR Part 60, Appendix A, Method 19, using the average concentration as measured by the CEMS over the preceding 12 months.
	H	=	Total heat input in mmBTU to the unit from all fuels fired in the unit over the previous rolling 12-month period

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with condition D. 2.2.(l), the Permittee shall monitor the daily average H_2S concentration at the outlet of the iron sponge system from TK-6254 and shall determine the daily average vapor flow based on the nitrogen purge to TK-6254. The H_2S concentration and nitrogen purge flow will be used to calculate the H_2S emission rate. Process analyzers calibrated in accordance with the manufacturer's recommendations may be used for this purpose.

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with condition D.2.2.(m), on a monthly basis, the Permittee shall monitor the VOC concentration at the

outlet of the iron sponge system in accordance with Paragraph 52.a.ii and 52.b.ii of the Consent Decree entered in Civil No. 2:12-CV-00207 and shall verify and record that flow is present when the VOC concentration is measured at the tank vent. The Permittee shall determine the monthly average vapor flow based on the nitrogen purge rate to TK-6254. The VOC concentration and nitrogen purge flow will be used to calculate the VOC emissions rate.

D.2.15 Performance Testing

Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the New Coker (#2 Coker), the Permittee shall perform PM, PM_{10}, and VOC testing of Heaters F-201, F-202, and F-203 utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.2.16 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in F-201, F-202 and F-203. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, and to demonstrate compliance with Condition D.2.2(c), the Permittee shall install, operate, calibrate and maintain a NO_X CEMs on Heaters F-201, F-202 and F-203. The Permittee shall install, certify, calibrate, maintain, and operate the NO_X CEMS in accordance with the provisions of 40 CFR § 60.13 that are applicable to CEMs (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B. Unless Appendix F requirements are specifically required by NSPS or state regulations, then in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct either a RAA or a RATA on each CEMS at least once every three (3) years. The Permittee shall conduct a Cylinder Gas Audit each Calendar Quarter during which a RAA or a RATA is not performed.

(c) In order to demonstrate compliance with Conditions D.2.2 and D.2.13, the Total Sulfur Continuous Analyzer, the NO_X, and CO continuous emission monitoring systems (CEMS) for F-201, F-202, and F-203 shall be calibrated, maintained, and operated for determining compliance with the SO_2, CO and NO_X emissions limits in Condition D.2.2 in accordance with the applicable requirements in - Section C - Maintenance of Continuous Emission Monitoring Equipment and - Section C - Maintenance of Emission Monitoring Equipment.

The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.17 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.18 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.2.3 and D.2.12, the Permittee shall maintain a daily record of the following for the No. 11B Coker process heaters H-101, H-102, H-103 and H-104:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

The Permittee shall comply with this requirement until the shutdown of the No. 11B Coker and the associated emissions units.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.2.1, Permittee shall maintain records for the No. 11B Coker process heaters as specified in the Continuous Compliance Plan. The Permittee shall comply with this requirement until the shutdown of the No. 11B Coker and the associated emissions units.

(c) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.2.5, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.2.6(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) Pursuant to 40 CFR 60, Subparts GGG and GGGa and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.2.6(b), (c), (d) and (e), the Permittee shall keep records as specified in Sections E.1, E.4, E.13, E.25 and E.26.

(f) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 61, Subpart FF, and 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.2.8, the Permittee shall keep records as specified in Sections E.1 , E.3, and E.6.

(g) Pursuant to 326 IAC 6.8-10-4(4) (formerly 326 IAC 6-1-11.1(e)(4)) and to document the compliance status with Condition D.2.10, for the Coke Pile, the Permittee shall keep the following documentation:

(1) A map or diagram showing the location of all fugitive PM emission sources controlled,

(2) For application of physical or chemical control agents, the following:

(A) The name of the agent

(B) Location of application

(C) Application rate

(D) Total quantity of agent used

(E) If diluted, percent of concentration

(F) The material data safety sheets for each chemical

(3) A log recording incidents when control measures were not used and a statement of explanation.

(4) Copies of all records required by this section shall be submitted to IDEM, OAQ within twenty (20) working days of a written request by IDEM, OAQ.

(h) Pursuant to 326 IAC 8-9-6(b), the Permittee shall maintain, for the life of the vessel, a record of the following for tank TK-6254 to which 326 IAC 8-9 applies:

(1) The vessel identification number,

(2) The vessel dimensions,

(3) The vessel capacity, and

(4) A description of the emission control equipment for each vessel described in section 4(a) or 4(b) of 326 IAC 8-9, or a schedule for installation of emission control equipment on vessels described in section 4(a) or 4(b) of 326 IAC 8-9 with a certification that the emission control equipment meets the applicable standards.

(i) In order to document the compliance status with Condition D.2.2, the Permittee shall maintain records of monthly firing rates and CO, NO_X, and SO_2 emissions for heaters F-201, F-202, and F-203.

(j) In order to document the compliance status with Condition D.2.2, the Permittee shall maintain records of monthly coke throughput at the New Coker (#2 Coker).

(k) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.2.16 the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(l) Pursuant to 40 CFR 60, Subpart UU and to document the compliance status with Condition D.2.9, the Permittee shall maintain records as specified in Section E.17.

(m) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to document compliance with Condition D.2.2(l), the Permittee shall maintain records of daily average H_2S concentration at the outlet of the iron sponge system and the daily average vapor flow based on the nitrogen purge rate to TK-6254.

(n) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to document compliance with Condition D.2.2(m), the Permittee shall maintain records of the VOC concentration at the outlet of the iron sponge system and record if flow is present when the VOC concentration is measured at the tank vent.

(o) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligation with regards to the records required by Paragraphs (a), (b), (d), (g), (h), (i), (j), (k), (m) and (n) of this condition.

D.2.19 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.2.3 and D.2.16 the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the No. 11B Coker process heaters. The Permittee shall comply with this requirement until the shutdown of the No. 11B Coker and the associated emissions units.

(b) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.2.5, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.2.6(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 60, Subparts GGG and GGGa and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.2.6(b), (c), (d) and (e), the Permittee shall submit reports as specified in Sections E.1, E.4, E.13, E.25 and E.26.

(e) Pursuant to 40 CFR 63, Subpart CC , 40 CFR 61, Subpart FF, and 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.2.8, the Permittee shall submit reports as specified in Sections E.1, E.3, and E.6.

(f) Pursuant to 326 IAC 6.8-10-4(4)(G) (formerly 326 IAC 6-1-11.1(e)(4)(G)) and to document the compliance status with Condition D.2.12, a quarterly report shall be submitted not later than thirty (30) days of the end of each quarter, stating the following:

(1) The dates any required control measures were not implemented

(2) A listing of those control measures

(3) The reasons that the control measures were not implemented

(4) Any corrective action taken

(g) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.2.2 and D.2.16, the Permittee shall submit reports of excess SO_2, CO NO_X emissions at heaters F-01, F-202, and F-203, and excess H_2S and VOC emissions at TK-6254 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
(A) Date of downtime.
(B) Time of commencement.
(C) Duration of each downtime.
(D) Reasons for each downtime.
(E) Nature of system repairs and adjustments

(h) In order to document the compliance status with Condition D.2.2, the Permittee shall submit quarterly reports for the monthly firing rates, and CO, NO_X, and SO_2 emissions at heaters F-201, F-202, and F-203, and H_2S and VOC emissions at TK-6254 not later than thirty (30) days of the end of each quarter.

(i) In order to document the compliance status with Condition D.2.2, the Permittee shall submit quarterly reports for the coke throughput at the New Coker (#2 Coker) and the number of hours the coke handling operated under alternative operating scenario not later than thirty (30) days of the end of each quarter.

(j) Pursuant to 40 CFR 60, Subpart UU and to document the compliance status with Condition D.2.9, the Permittee shall submit reports as specified in Section E.17.

(k) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (f), (g), (h), and (i) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.3 FACILITY OPERATION CONDITIONS – No. 12 Pipe Still

Facility Description [326 IAC 2-7-5(14)]:

(c) No. 12 Pipe Still, constructed in 1959 and to be modified as part of the WRMP Project, which processes crude into various hydrocarbon fractions based on boiling points, identified as Unit ID 130, and is rated at 336,000 barrels per day. Heaters identified as H-1AN, H-1AS, H-1B, H-2, H-1CN, and H-1CX will be shutdown and replaced by heaters H-101A, H-101B, and H-102 as part of the WRMP project. Also, as part of the WRMP Project, there will be upgrades made to the atmospheric and vacuum distillation towers and various heat exchangers and associated piping. The facility includes the following emission sources and may also include insignificant activities listed in Section A.4 of this permit:

(1) The following process heaters, all of which are fired by natural gas, refinery gas, or liquified petroleum gas:

Heater Identification	Construction Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
H-1AN	1959	121.5	130-01	None
H-1AS	1959	121.5	130-01	None
H-1B	1959	243	130-01	None
H-2	1959	174	130-01	Ultra low NO_X burners
H-1CN	1967/1995	120	130-02	Low NO_X burners
H-1CX	1977	410	130-04	Low NO_x burners
H-101A	Permitted in 2008 (SPM 089-25488-00453)	355	130-05	Ultra low- NO_X burners
H-101B	Permitted in 2008 (SPM 089-25488-00453)	355	130-07	Ultra low- NO_X burners
H-102	Permitted in 2008 (SPM 089-25488-00453)	331	130-06	Ultra low- NO_X burners

(2) One (1) vacuum hot well, identified as D-7, constructed in 1995, and venting to S/V 130-05. The vacuum tower overhead system consists of a series of condensers, steam ejectors, and vacuum pumps. The majority of the overhead vapors are condensed and drained to the hotwell, which is pumped back to the front end of the unit for reprocessing. The gas compressors pull the remaining vapor that is not condensed in the overhead system into the wet gas system, where the hydrocarbon is reprocessed by down stream units. A thermocouple system (with temperature alarm) is used to monitor the vacuum on the system.

(3) The No. 12 Pipestill, after modifications, will be connected to the South flare and associated flare gas recovery system FGRS1 (included in Section D.35). The system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(4) Leaks from process equipment, including compressors (K-1, K-1A, K-1B, K-101A, K-101B and K-101C), valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and flanges and heat exchange systems. Compressors K-1, K-1A, and K-1B will be shut down as part of WRMP.

(5) Miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1 (identified in Section D.35).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008) the Permittee shall comply with the following PM_{10} emission limitations for the No. 12 Pipe Still process heaters until these heaters are shutdown as part of the WRMP project:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
Stack serving H-1AN, H-1AS, H-1B Preheaters and H-2 Vacuum Heater	0.0075	4.918

(b) Until the shutdown of heaters H-1CN and H-1CX, pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the PM_{10} emissions from H-1CN and H-1CX shall not exceed 0.0075 lb/mmBTU for both heaters and 0.894 and 3.055 lb/hr for H-1CN and H-1CX, respectively.

D.3.1.2 Lake County PM_{10} (filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005) the Permittee shall comply with the following filterable PM_{10} emission limitations for the No. 12 Pipe Still process heaters until these heaters are shutdown as part of the WRMP project:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
Stack serving H-1AN, H-1AS, H-1B Preheaters and H-2 Vacuum Heater	0.025	16.348

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.3.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition (until shutdown) in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.3.2 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from each of the three (3) heaters H-101A, H-101B and H-102 shall not exceed 0.03 grains per dry standard cubic foot.

D.3.3 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, the Permittee shall comply with the following sulfur dioxide emission limitations for the No. 12 Pipe Still process heaters (until these heaters are shutdown):

Process Heater	SO_2 Limit (lbs/mmBTU)	SO_2 Limit (lbs/hour)
H-1AS and H-1AN Preheaters	0.033	21.78
H-1B Preheater	0.033	
H-2 Vacuum Heater	0.033	
H-1CN Crude Preheater	0.033	7.92
H-1CX Crude Preheater	0.033	13.53

D.3.4 Standards of Peformance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to SPM 089-15202-00003, issued on April 24, 2002 and 40 CFR 60.104(a)(1), until these heaters are shutdown, the Permittee shall comply with the requirements specified in Section E.2 for the following process heaters: H-1AS and H-1AN Preheaters, H-1B Preheater, H-2 Vacuum Heater, H-1CN Crude Preheater, and H-1CX Crude Preheater.

(b) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the date of startup, Heaters H-101A, H-101B and H-102 shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters H-101A, H-101B and H-102.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, Heaters H-101A, H-101B and H-102 shall be affected facilities for NO_X as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja for NO_X emissions for process heaters by the date specified in 40 CFR 60, Subpart Ja. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters H-101A, H-101B and H-102.

D.3.5 Emission Offset [326 IAC 2-3], Prevention of Significant Deterioration [326 IAC 2-2] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

(a) Pursuant to CP 089-2055-00453 issued on March 12, 1992, until heater H-1CX is shutdown, nitrogen oxide emissions from the 12 Pipe Still H-1CX furnace shall not exceed 0.10 lb/mmBTU. Compliance with this limit renders 326 IAC 2-3 not applicable. The H-1CX furnace shall also be equipped with low NO_X burners.

(b) In order to render 326 IAC 2-2-8, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable:

(1) Pursuant to Permit SSM 089-25484-00453 (issued May 1, 2008), the Permittee shall comply with the following limits for the heaters identified as H-101A, H-101B and H-102, with compliance with the annual CO limits determined at the end of each month:

Heater ID	CO tons (per 12 consecutive month period)	VOC (lb/mmBTU)	PM_{10} (lb/mmBTU)
H-101A	29.5	0.0054	0.0075
H-101B	29.5	0.0054	0.0075
H-102	27.5	0.0054	0.0075

(2) Pursuant to SSM 089-32033-00453, Permittee shall comply with the following PM emission limits for the heaters identified as H-101A, H-101B and H-102, with compliance determined at the end of each month.

Heater ID	PM (lb/mmBTU)
H-101A	0.0075
H-101B	0.0075
H-102	0.0075

(3) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SSM 089-25484-00453 (issued May 1, 2008), the Permittee shall comply with the following limits for the heaters identified as H-101A, H-101B and H-102.

Heater ID	NO_X tons per 12 consecutive month period
H-101A	77.7
H-101B	77.7
H-102	72.5

(4) The Permittee shall comply with the following limits on firing rates:

Unit ID	Firing rate limit (10^3 mmBTU) per 12 consecutive month period
H-101A	3109.8
H-101B	3109.8
H-102	2899.6

(5) The Permittee shall comply with the following limits following completion of the WRMP project:

Heater ID	SO_2 tons per 12 consecutive month period
H-101A	17.2
H-101B	17.2
H-102	16.0

(6) The heaters H-1AN, H-1AS, H-1B, H-2, H-1CN, and H-1CX shall be permanently shutdown prior to the completion of the WRMP project.

(7) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.3.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.3.6 Equipment Leaks of VOC and Hazardous Air Pollutants (HAPs) [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at No. 12 Pipe Still.

(c) Pursuant to 40 CFR 60, Subpart GGG, prior to the modifications of No. 12 Pipestill made as part of the projects authorized by SSM 089-25484-00453, the Permittee shall comply with the requirements specified in Sections E.4 and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at No. 12 Pipestill.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the No. 12 Pipestill shall be an affected facility for purposes of 40 CFR Part 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the No. 12 Pipestill no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Prior to the modifications of No. 12 Pipestill made as part of the projects authorized by SSM 089-25484-00453, the No. 12 Pipestill shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(e) Compressors K-101A, K-101B and K-101C are affected facilities pursuant to 40 CFR 60, Subpart GGGa, and the Permittee shall comply with the requirements specified in Sections E.25 and E.26 for equipment leaks of VOC from compressors for K-101A, K-101B and K-101C.

D.3.7 Volatile Organic Compounds (VOC) [326 IAC 8-4-2]

Pursuant to 326 IAC 8-4-2(1), the Permittee shall control VOC emissions from No. 12 Pipe Still vacuum hot well, D-7, according to the following:

No owner or operator of any vacuum producing systems at a petroleum refinery may cause, allow or permit the emission of any noncondensable volatile organic compounds from the condensers, hot wells or accumulators of the system.

D.3.8 Wastewater / Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ] [326 IAC 12]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.3.9 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

Pursuant to SPM 089-15202-00003, issued April 24, 2002 and SPM 089-18588-00453, issued July 15, 2004, nitrogen oxide emissions from the Heater H-2 (until shutdown) shall be controlled

by low- NO_X burners having an emission rate of 0.044 pounds per million Btu or less. This condition renders the requirements of 326 IAC 2-2 not applicable.

D.3.10 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1. Requirements for the South Flare and FGRS1 are included in Section D.35.

Compliance Determination Requirements.

D.3.11 Operating Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to SPM 089-15202-00003, issued April 24, 2002, "fuel oil" shall not be used as fuel for the No. 12 Pipe Still Heaters H-1AN, H-1AS, H-1B, H-2, H-1CN, H-1CX, H-101A, H-101B and H-102.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with Condition D.3.5(b)(3), the heaters H-101A, H-101B, and H-102 shall operate using ultra-low NO_X burners only.

D.3.12 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in H-101A, H-101B and H-102 shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.3.13 Performance Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Pursuant to SSM 089-32033-00453, not later than 5 years after the most recent valid compliance demonstration, the Permittee shall perform NO_X testing of the H-2 heater utilizing methods approved by the Commissioner, in order to demonstrate compliance with Condition D.3.9. - Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(b) Pursuant to SSM 089-32033-00453, not later than 180 days after the re-startup of the No. 12 Pipe Still, the Permittee shall perform PM, PM_{10}, and VOC testing of Heaters H-101A, H-101B, and H-102 utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.3.14 Compliance Determination Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.3.3 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the NO_X limits in Condition D.3.5(b)(3) shall be calculated using the following equation:

E_{tpy} = lb/mmBTU [NO_X] * H * 1 ton/2000 lbs.			
Where:			
	E_{tpy}	=	Stack [NO_X] emissions in tons per year
	lb/mmBTU	=	lb/mmBTU calculated using 40 CFR Part 60, Appendix A, Method 19, using the average concentration as measured by the CEMS over the preceding 12 months.
	H	=	Total heat input in mmBTU to the unit from all fuels fired in the unit over the previous rolling 12-month period

D.3.15 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in Heaters H-101A, H-101B and H-102. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the Permittee shall install, operate, calibrate and maintain a NO_X CEMs on Heaters H-101A, H-101B and H-102. The Permittee shall install, certify, calibrate, maintain, and operate the NO_X CEMS in accordance with the provisions of 40 CFR § 60.13 that are applicable to CEMs (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B. Unless Appendix F requirements are specifically required by NSPS or state regulations, then in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct either a RAA or a RATA on each CEMS at least once every three (3) years. The Permittee shall conduct a Cylinder Gas Audit each Calendar Quarter during which a RAA or a RATA is not performed.

(c) In order to demonstrate compliance with Conditions D.3.5 and D.3.12, the Total Sulfur Continuous Analyzer, the NO_X, and a CO continuous emission monitoring systems (CEMS) shall be calibrated, maintained, and operated for determining compliance with SO_2, NO_X, and CO emissions limits for H-101A, H-101B, and H-102 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.16 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.17 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.3.3, and D.3.11, the Permittee shall maintain a daily record of the following for No. 12 Pipe Still:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each fuel type, and
(5) heat content of each fuel type.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.3.1, Permittee shall maintain records for the No. 12 Pipe Still process heaters H-1AS and H-1AN Preheaters, H-1B Preheater, H-2 Vacuum Heater, H-1CN Crude Preheater, and H-1CX Crude Preheater as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.3.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.3.6(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) Pursuant to 40 CFR 60, Subparts GGG and GGGa, and 40 CFR 63, Subpart CC, and to document the compliance status with Conditions D.3.6(b), (c), (d) and (e), the Permittee shall keep records as specified in Sections E.1, E.4, E.13, E.25, and E.26.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.3.8, the Permittee shall keep records as specified in Sections E.1 and E.3.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.3.8(b), the Permittee shall keep records as specified in Section E.6.

(h) In order to document the compliance status with Condition D.3.5, the Permittee shall maintain records of the monthly firing rates and CO, SO_2, and NO_X emissions at heaters H-101A, H-101B, and H-102.

(i) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.3.15, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.

(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
(A) Date of facility downtime,
(B) Time of commencement and completion of downtime, and
(C) Reason for each downtime.

(j) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (h), and (i) of this condition.

D.3.18 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.3.3, and D.3.11, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur emission rate, in pounds per hour, for No. 12 Pipe Still process heaters.

(b) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.3.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.3.6(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 60, Subparts GGG and GGGa, and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.3.6(b), (c), (d) and (e), the Permittee shall submit reports as specified in Sections E.1, E.4, E.13, E.25, and E.26.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.3.8(a), the Permittee shall submit reports as specified in Sections E.1, and E.3.

(f) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.3.8(b), the Permittee shall submit reports as specified in Section E.6.

(g) In order to document the compliance status with Condition D.3.5, upon start-up of the H-101A, H-101B and H-102 heaters, the Permittee shall submit a quarterly summary of the monthly firing rates, and CO, NO_X, and SO_2 emissions for heaters H-101A, H-101B, and H-102 not later than thirty (30) days after the end of the quarter being reported.

(h) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.3.5 and D.3.15, the Permittee shall submit reports of excess SO_2, NO_X and CO emissions not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.

(5) A summary itemizing the exceedances by cause.

(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(A) Date of downtime.

(B) Time of commencement.

(C) Duration of each downtime.

(D) Reasons for each downtime.

(E) Nature of system repairs and adjustments

(i) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (g), and (h) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.4 FACILITY OPERATION CONDITIONS - Sulfur Recovery Complex

Facility Description [326 IAC 2-7-5(14)]:

(d) The Sulfur Recovery Plant (SRP), identified as Unit ID 162, originally constructed in 1971 and expanded in 1981 and 1995, and rated at 600 long tons per day, to be modified as part of the WRMP Project, increasing the capacity to 1,300 long tons per day of sulfur. Additional sulfur capacity can be achieved with oxygen enrichment in the C, D and E Claus trains as part of the original WRMP design with no increase in permitted emissions. The facility includes the following and may also include insignificant activities listed in Section A.4 of this permit:

(1) Three (3) three-stage Claus sulfur recovery trains, identified as A, B, and C, and two (2) additional three-stage Claus sulfur recovery trains installed after modification, identified as D and E trains.

(2) One (1) Beavon-Stretford tailgas unit (B/S TGU), a reduction system with a burner capacity of 24.3 mmBTU per hour, exhausting at stack S/V 162-02. The B/S TGU will be decommissioned as part of the WRMP project.

(3) One (1) tailgas unit (SBS TGU), an oxidation system with a burner capacity of 40 mmBTU per hour, exhausting at stack 162-04. The SBS TGU will be decommissioned as part of the WRMP project.

(4) One (1) caustic soda scrubbing tower to control sulfur dioxide emissions from the SBS TGU. The caustic soda scrubbing tower will be decommissioned as part of the WRMP project.

(5) One (1) cooling tower, identified as the SBS cooling tower, used to remove sodium bisulfite from the caustic scrubbing tower exhaust stream, equipped with a high-efficiency mist eliminator, and exhausting at stack 162-05. The SBS cooling tower will be decommissioned as part of the WRMP project.

(6) Gas quenching and cooling towers other than the SBS cooling tower, to be decommissioned as part of the WRMP project.

(7) One (1) quench separator with mist eliminators, to be decommissioned as part of the WRMP project.

(8) One (1) gas cooler and water condenser with sulfur dioxide stripper, to be decommissioned as part of the WRMP project.

(9) Caustic soda storage tanks and sodium bisulfite storage tanks, and handling equipment to be decommissioned as part of the WRMP project.

(10) One (1) standby incinerator, used only in the event of an emergency, exhausting at stack S/V 162-01, to be decommissioned as part of the WRMP project.

(11) One (1) flare stack exhausting at stack S/V 162-03 which controls H_2S and VOC emissions during emergency situations, unit start-ups/shut-downs, and preparation of equipment for maintenance. Refinery or natural gas is used as a constant purge stream. Pilot gas is natural gas.

(12) One (1) modular degassing unit, which removes gases that are emitted during the cooling of molten sulfur. Removed gases are vented to the SBS TGU. Removed gases will be vented to the front end of Claus Trains D and/or E as part of the WRMP project.

(13) Two (2) modular degassing units, to be installed as part of the WRMP project, which remove gases that are emitted during the cooling of molten sulfur. The gases will be vented to the front-end of Claus Trains D and/or E as part of the WRMP project.

(14) Three (3) sulfur pits, (Sulfur Pits A, B, and C) used to store molten sulfur with their vent stacks routed to the B/S TGU and/or the SBS. As part of the WRMP project, the sulfur pits A, B and C will be decommissioned and replaced with sealed sulfur collection drums. These sulfur drums are vented to the SRU A/B/C tailgas lines which are routed to either COT 1 and/or COT 2.

(15) Two (2) new SRU D and E sulfur trains, to be installed as part of the WRMP project, have two (2) sealed sulfur collection drums which will be used to store molten sulfur. These drums are vented to the SRU D/E tailgas lines, which are routed to either COT 1 and/or COT 2.

(16) One (1) sour water storage tank, identified as TK-431, with a maximum storage capacity of 845,600 gallons and used to store material that has a vapor pressure of less than 0.5 psia. The tank was constructed in 1985 and is equipped with an external floating roof.

(17) One (1) sour water storage tank, identified as TK-410, permitted in 2006, having a maximum storage capacity of 4,351,200 gallons and equipped with an external floating roof. The maximum true vapor pressure of the material stored in this tank is less than 0.5 psia.

(18) Two (2) Claus Offgas Treaters (COT), identified as COT1 and COT2, to be installed as part of the WRMP project, thermal oxidation systems which combust natural gas, each rated at 72 mmBTU/hr, equipped with SO_2 and CO CEMS, exhausting at stacks S/V 162-06 and 162-07.

(19) Two (2) sulfur storage tanks, identified as TK-315 and TK-316, each with a maximum storage capacity of 1,008,000 gallons and used to store molten sulfur exhausting to stacks S/V 163-09 and 162-10. These tanks will be constructed as part of the WRMP Project and are both fixed roof tanks controlled by a steam blanketed, water eductor system routed back to the process .

(20) One (1) Sulfur loading operation to be installed as part of the WRMP Project.

(21) The Sulfur Recovery Plant, after installation of COT1 and COT2, will be connected to the South flare and associated flare gas recovery system FGRS1 (included in Section D.35). The system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(22) Leaks from process equipment, including valves, pumps, pressure relief devices, sampling connection systems, open-ended lines, and flanges.

(23) Miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1 (included in Section D.35).

<u>Main Operating Scenario Pre WRMP:</u>
Approximately 80% of tailgases from the three WRMP trains are sent to the B/S TGU, with the remainder sent to the SBS TGU.

Alternate Operating Scenario #1 Pre WRMP:
One train and the B/S TGU are not operated. Tailgases from the other two trains are sent to the SBS TGU.

Alternate Operating Scenario #2 Pre WRMP:
The B/S TGU is not operated. Tailgases from the three trains are sent to the SBS TGU.

Alternate Operating Scenario #3 Pre WRMP:
The SBS TGU is not operated. Tailgases from the three trains are sent to the B/S TGU.

Main Operating Scenario Post WRMP:
The tailgases from the five trains are sent to both of the COTs.

Alternate Operating Scenario #1 Post WRMP:
One of the COTs is not operated and the tailgases from the five trains are sent to the other COT.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from SBS TGU (until shutdown), each of the two (2) offgas treaters/thermal oxidizers identified as COT1 and COT2, and the SBS cooling tower (until shutdown) shall not exceed 0.03 grains per dry standard cubic foot.

D.4.2.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), until it is shutdown, the PM_{10} emissions from the B/S TGU shall not exceed 0.0075 lb/mmBTU and 0.182 lb/hr:

(b) Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the PM_{10} emissions from the Sulfur Recovery Unit Incinerator, until it is shutdown, shall not exceed 0.0075 lb/mmBTU and 0.285 lb/hr.

D.4.2.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), until it is shutdown, the filterable PM_{10} emissions from each of the following units shall not exceed the following:

Emission Unit	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/ton of Feed)	PM_{10} Limit (lbs/hour)
Sulfur Recovery Unit Incinerator	0.004	None	0.090
Beavon Stretford TailGas Unit (B/S TGU)	None	0.110	0.103

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.4.2.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP), until the B/S TGU and Sulfur Recovery Unit Incinerator are shutdown. Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.4.3 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

(a) Pursuant to 326 IAC 7-4.1-3(a)(15), (16) and (17), emissions from the following Sulfur Recovery Unit process units shall comply with the following sulfur dioxide emission limitations:

Unit Description	SO_2 Emission Limitation (lbs/mmBTU)	SO_2 Emission Limitation (lbs/hour)
Sulfur Recovery Unit Incinerator (until shutdown)	0.033	1.25
Beavon Stretford TailGas Unit (B/S TGU) (until shutdown)	None	53.10 Total Reduced Sulfur calculated as SO_2
Sodium Bisulfite TailGas Unit (SBS TGU) (until shutdown)	None	9.0

(b) Pursuant to 326 IAC 7-4.1-1, the offgas treaters/thermal oxidizers identified as COT1 and COT2 shall burn natural gas only as supplemental fuel.

D.4.4 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR and Emission Offset [326 IAC 2-3] Minor Limit

(a) Pursuant to Construction Permit 089-3323-00003, issued December 14, 1994:

(1) Emissions of TRS calculated as SO_2 from the B/S TGU (until shutdown) shall not exceed 232.6 tons per twelve (12) consecutive month period.

(2) Emissions of TRS calculated as SO_2 from the B/S TGU (until shutdown) shall be limited to 300 parts per million by volume (ppmv).

(3) The following emission units shall remain inoperative unless new approval is obtained:

(A) Propane Dewaxing Unit

(B) #1, #2, and #3 Asphalt Oxidizers

(C) The Butamer Unit

(D) The F-7 Furnace to the Isomerization Unit

(E) The #1 Power Station Boiler #1

(b) Pursuant to SSM 089-13846-00003, issued on June 27, 2001, emissions of SO_2 at 0% excess air from the SBS TGU (until shutdown) shall not exceed 39.4 tons per twelve (12) consecutive month period.

Compliance with conditions (a) and (b) above shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

(c) In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(1) The PM_{10} emissions from COT1 and COT2 each shall not exceed 0.0075 pounds per million BTU.

(2) Pursuant to SSM 089-32033-00453, the PM emissions from COT1 and COT2 each shall not exceed 0.0075 pounds per million BTU.

(3) The VOC emissions from each COT1 and COT2 shall not exceed 0.0054 pounds per million BTU.

(4) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than 60 days after the maximum production rate at which the later of the two new Claus Sulfur Recovery Units (Claus D and E trains) and associated Claus Offgas Treaters (COT1 and COT2) being installed as a part of WRMP will be operated, or 180 days after initial startup, whichever comes first, the combined SO_2 emissions from COT1 and COT2 shall not exceed 194.8 tons per each rolling 12 month period, with compliance determined at the end of each month.

(5) The combined CO emissions from COT1 and COT2 shall not exceed 55.0 tons per 12 consecutive month period, with compliance determined at the end of each month.

(6) The NO_X emissions from COT1 and COT2 each shall not exceed 0.08 pounds per million BTU.

(7) The Permittee shall comply with the following firing rate limit:

Unit ID	Firing Rate (10^3 mmBTU) per 12 consecutive month period
COT1 and COT2 (total)	1261.4

(8) The B/S TGU, SBS TGU, and SBS Cooling tower shall be permanently shutdown prior to the completion of the WRMP project.

(9) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.4.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant,

rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.4.5 Standards of Peformance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to 40 CFR 60.104(a)(2), the Permittee shall comply with the requirements in Section E.2 for the SBS TGU (until shutdown), and B/S TGU (until shutdown).

(b) Per the alternative monitoring plan (AMP) submitted by BP Whiting on July 21, 2006 and approved by the US EPA on August 30, 2006, the B/S TGU shall comply with the SO_2 concentration limit of 250 ppm established in 40 CFR 60.105(a)(7)(ii). The aforementioned AMP is included as an attachment.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Sulfur Recovery Plant shall be an “affected facility” as that term is used in 40 CFR 60, Subparts A and Ja, for all pollutants applicable to SRPs, and shall be subject to and comply with all applicable requirements of 40 CFR 60, Subparts A and Ja except as provided below:

(1) Each of the two new Claus sulfur recovery units (Claus D and E trains) and Claus Offgas Treaters (COT1 and COT 2) being installed as a part of WRMP, shall achieve and thereafter maintain compliance with the emission limit in 40 CFR § 60.102a(f)(1)(i) and the monitoring requirements in 40 CFR § 60.106a(a)(1) by no later than 60 days after achieving the maximum production rate at which the unit will be operated, or 180 days after initial startup, whichever comes first.

(2) The Beavon-Stretford TGU (B/S TGU) and the SBS TGU units shall be shut down and permanently removed from service by no later than 180 days after the initial startup of the later of the two sulfur recovery units (Claus D and E trains) and Claus Offgas Treaters (COT1 or COT 2) being installed as a part of WRMP. Initial startup of the two new Claus sulfur recovery units and Claus Offgas Treaters shall be by no later than the initial startup of the New Coker. Until the B/S TGU unit is shut down the Permittee shall continue to monitor emissions from that unit and determine compliance with the emission limits in 40 CFR §60.102a(f)(1) in accordance with the monitoring procedure specified in Appendix C of the Consent Decree in Civil No. 2:12-CV-00207.

D.4.6 Equipment Leaks of VOC [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, upon completion of modifications to the Sulfur Recovery Plant authorized by SSM 089-25484-00453 or upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, whichever is sooner, the Sulfur Recovery Plant shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for

equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Sulfur Recovery Plant no later than one year from the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207.

(2) The Sulfur Recovery Plant shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.4.7 Wastewater/Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ] [326 IAC 14] [40 CFR 61, Subpart FF]

(a) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(b) Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

(c) Pursuant to 40 CFR 63.647 of 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements of 40 CFR 61, Subpart FF, specified in Section E.3, for TK-410 and TK-431.

D.4.8 Requirements for 40 CFR Part 63, Subpart UUU

Pursuant to 40 CFR 63, Subpart UUU, the Sulfur Recovery Plant and associated bypass lines shall comply with the requirements of Section E.10.

D.4.9 Requirements for 40 CFR Part 60, Subpart Dc

Pursuant to 40 CFR 60, Subpart Dc, the Permittee shall comply with the requirements specified in Section E.19 for the waste heat boilers on the COT1 and COT2.

D.4.10 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions, which are routed to the South Flare and associated flare gas recovery system FGRS1. Requirements for the South Flare and FGRS1 are included in Section D.35.

Compliance Determination Requirements

D.4.11 Operating Requirements

Pursuant to permit SSM 089-13846-00003 issued June 27, 2001 as amended by Administrative Amendment 089-15525-00003 issued April 15, 2002, the Permittee shall re-route all NSPS SRP sulfur pit emissions such that they are treated, monitored, and included as part of the emissions of the SRU subject to the NSPS Subpart J limit for SO_2.

D.4.12 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than 60 days after the maximum production rate at which the later of the two new Claus Sulfur Recovery Units (Claus D and E trains) and associated Claus Offgas Treaters (COT1 and COT2) being installed as a part of WRMP

will be operated, or 180 days after initial startup, whichever comes first, the Sulfur Recovery Plant (SRP) shall comply with the following requirements:

(1) 40 CFR § 60.102a (f)(1)(i) during all periods of operation of the SRP, other than periods of startup, shutdown or malfunction of the SRP or malfunction of a Tail Gas Unit (TGU) to the extent provided under 40 CFR § 60.8.

(2) At all times, including, but not limited to, periods of startup, shutdown, malfunction and maintenance, the Permittee shall, to the extent practicable, operate and maintain the SRP, including its TGU, its sulfur pits and sealed sulfur collection drums, any supplemental control devices on the SRP, and Pit 2400 and the molten sulfur storage tanks, in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required by 40 CFRR § 60.11(d).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, the molten sulfur tanks TK-315 and TK-316 shall be steam or nitrogen blanketed and equipped with a water eductor system that routes H2S emissions back to the sulfur recovery plant at all times, except during periods when the tanks are vented to atmosphere to allow for maintenance on equipment associated with the tank (i.e. valves and level transmitters).

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, Tanks TK-315 and TK-316 shall not be vented to atmosphere except during periods of maintenance on equipment associated with the tank, and during those periods for no more than 100 hours per rolling 12-month period.

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall comply with the requirements of 40 CFR § 60.102a(f) as it applies to Sulfur Pits A, B and C.

(e) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall continue to operate and maintain the following control and monitoring equipment until Sulfur Pits A, B, C and 2400 are decommissioned:

(1) Pit sweep system for Sulfur Pits A, B, C and 2400;

(2) Temperature indicators located at each eductor inlet at Sulfur Pits A, B, C and 2400; and

(3) Caustic scrubber to treat emissions from Sulfur Pits A, B, C and 2400 in the event that pit sweep emissions are routed to the B/S TGU.

(f) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall, to the extent practicable, maintain and operate the newly redesigned degas system to minimize the entrainment of H2S vapor in the sulfur routed to Pit 2400 in a manner consistent with good air pollution control practice for minimizing emissions.

(g) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than 180 Days after initial startup of the new coker

(#2 Coker), the Permittee shall replace Sulfur Pits A, B and C with sealed sulfur collection drums, and shall replace Pit 2400 with molten sulfur storage tanks.

(h) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than the date that the Permittee replaces Sulfur Pits A, B and C with sealed collection drums and Pit 2400 with storage tanks, the Permittee shall route all sulfur emissions from the sealed sulfur collection drums and the molten sulfur storage tanks such that they are treated, monitored, and included as part of the SRP's emissions subject to the NSPS Subpart Ja limit for SO2, 40 CFR § 60.102a (f)(1)(i).

(i) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, for a period of one year commencing from the first use of each molten sulfur storage tank, the Permittee shall monitor on a continuous basis and report to EPA on a semi-annual basis the duration of all relief valve releases from each molten sulfur storage tank.

(j) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, nothing in Condition D.4.12(g)&(h) shall preclude the Permittee from undertaking maintenance on the sealed sulfur collection drums consistent with the provisions of 40 C.F.R. § 60.102a(f)(3), or the molten sulfur storage tanks consistent with Condition 4.2.10(c).

D.4.13 Performance Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform testing of the total dissolved solids (TDS) in the SBS cooling tower utilizing methods as approved by the Commissioner. The SBS tower will be deemed in compliance with 326 IAC 6.8-1-2 provided that the total dissolved solids in the cooling tower water do not exceed 3300 ppmv. This test shall be repeated at least once every three months from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(b) Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the COT1 thermal oxidation system, the Permittee shall perform NO_X, PM, PM10 and VOC testing of COT1 utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(c) Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the COT2 thermal oxidation system, the Permittee shall perform NO_X, PM, PM10, and VOC testing of COT2 utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.4.14 Compliance Determination Requirements

(a) Until the SRU incinerator is shutdown:

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitation for the SRU

incinerator in Condition D.4.3 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the SO_2 emission limit in Condition D.4.4(c)(4) shall be determined each month by adding the total emissions for that month to the total emissions for the preceding 11 months. Total emissions for each month shall be determined with CEMS emission data converted by the following equation:

$$E = \left(\frac{F \times C \times MW}{V_m \times 2000 \times 10^6} \right)$$

E	=	TGTU SO_2 Emissions in tons per month
F	=	Measured total TGTU incinerator stack flow rate, dscf at standard conditions (60º F), for the month
C	=	Average concentration of SO_2 in TGTU incinerator, exhaust for the month, in ppmvd
MW	=	Molecular weight of SO_2 = 64.06
Vm	=	379.4 dscf of gas per lb-mol at standard conditions (60º F)
2000	=	conversion factor for 2000 pound per ton
10^6	=	conversion factor for ppmv to volume fraction

D.4.15 Continuous Emissions Monitoring

In order to demonstrate compliance with Condition D.4.4, SO_2 and CO continuous emission monitoring systems (CEMS) shall be calibrated, maintained, and operated for determining compliance with SO_2 and CO emissions limits for COT1 and COT2 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.16 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.17 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Condition D.4.3, the Permittee shall maintain daily records of the following for the SRU incinerator (until shutdown) for each day that the unit is operated:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.4.2, the Permittee shall maintain records for the SRU (until shutdown) as specified in the Continuous Compliance Plan.

(c) Pursuant to 326 IAC 7-4.1-3(b)(1)(C) and to document the compliance status with Condition D.4.3, the Permittee shall maintain daily records of the following for the B/S TGU (until shutdown):

(1) total reduced sulfur concentration,

(2) hydrogen sulfide concentration, and

(3) calculated stack gas flow rates.

(d) Pursuant to 326 IAC 7-4.1-3(b)(1)(D) and to document the compliance status with Condition D.4.3, the Permittee shall maintain daily records of the following for the SBS TGU (until shutdown):

(1) sulfur dioxide concentration, and

(2) stack gas flow rate.

(e) To document the compliance status with Condition D.4.4(a), the Permittee shall keep the following records for the B/S TGU (until shutdown):

(1) one-minute block averages from the TRS CEM, and

(2) average TRS emission rates, calculated as SO_2, per twelve (12) consecutive month period.

(f) To document the compliance status with Conditions D.4.4(b), the Permittee shall keep the following records for the SBS TGU (until shutdown):

(1) one-minute block averages from the SO_2 CEM, and

(2) average SO_2 emission rate per twelve (12) consecutive month period.

(g) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.4.5, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(h) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.4.6(a), the Permittee shall keep records as specified in the LDAR plan.

(i) Pursuant to 40 CFR 60, Subpart QQQ, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart CC and to document the compliance status with Condition D.4.7, the Permittee shall keep records as specified in Sections E.1, E.3 and E.6.

(j) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.4.14, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:

(A) Date of facility downtime,
(B) Time of commencement and completion of downtime, and
(C) Reason for each downtime.

(k) To document compliance with Condition D.4.6(b), the Permittee shall maintain records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) To document compliance status with Condition D.4.12, the Permittee shall maintain records of the duration in hours when Tanks TK-315 and TK-316 are vented to the atmosphere.

(m) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (c), (d), (e), (f), (h), (j), and (l) of this condition.

D.4.18 Reporting Requirements

(a) Until shut down of the SRU incinerator, the B/S TGU and the SBS TGU, pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Condition D.4.3, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the following information:

(1) average daily sulfur emission rate, in pounds per hour, for the SRU incinerator;

(2) the average daily sulfur dioxide emission rate for the incinerator and B/S TGU, in terms of pounds per hour of sulfur dioxide; and

(3) the average daily total reduced sulfur emission rate, calculated as sulfur dioxide, for the SBS TGU in pounds per hour.

(b) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.4.5, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.4.6, the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 326 IAC 3-5-4(a), if revisions are made to the standard operating procedures (SOP) submitted to OAQ for the continuous emission monitors, updates shall be submitted biennially

(e) Pursuant to 40 CFR 60, Subpart QQQ, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart CC and to document the compliance status with Condition D.4.7, the Permittee shall submit reports as specified in Sections E.1, E.3 and E.6.

(f) Until the B/S TGU and SBS are shutdown, a quarterly summary of the information to document the compliance status with Condition D.4.4 shall be submitted not later than thirty (30) days after the end of the quarter being reported

(g) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.4.8, the Permittee shall submit to IDEM, OAQ the documents specified in Condition E.10.

(h) In order to document the compliance status with Condition D.4.4, upon start-up of COT 1 and/or COT 2, the Permittee shall submit a quarterly summary of the monthly firing rates

and SO_2 and CO emissions at COT1 and COT2 not later than thirty (30) days after the end of the quarter being reported.

(i) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.4.4 and D.4.14, the Permittee shall submit reports of excess SO_2 and CO emissions at COT1 and COT2 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments.

(j) To document compliance with Condition D.4.6(b), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(k) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (d), (f), (h), (i), and (j) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.5 FACILITY OPERATION CONDITIONS - Vapor Recovery Units 100 and 200

Facility Description [326 IAC 2-7-5(14)]:

(e) (1) Vapor Recovery Unit 100 (VRU-100) identified as Unit ID 241, and Vapor Recovery Unit 200 (VRU-200) identified as Unit ID 231, permitted for turnaround (TAR) in 2008 to repair or replace tower trays and increase existing pumping and cooling capacities. Gasoline and lighter products from the FCUs are separated in the VRUs using a series of distillation towers. The VRUs are connected to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes leaks from process equipment including one (1) compressor (identified as J-3E located at VRU-100), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems. As part of the WRMP Project, there will be upgrades made to various heat exchangers and associated piping and retraying of distillation towers at VRU 100 and VRU 200. The facility may also include insignificant activities listed in Section A.4 of this permit.

(2) As part of the VRU 100/200 Whiting Atmospheric Relief Project (WARP), permitted in 2008, the hydrocarbon pressure relief discharges that were previously routed to the VRU 100/200 vent stacks, are being re-routed to the VRU flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at VRU 100 and VRU 200.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the VRU 100 and VRU 200 shall be affected facilities for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the VRU 100 and VRU 200 no later than one year from the “Date of Entry” of the Consent Decree entered in Civil No. 2:12-CV-00207.

(2) VRU 100 and VRU 200 shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.5.2 Wastewater / Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.5.3 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) After the completion of the WRMP project, the hydrocarbon pressure relief discharges that were previously routed to the VRU 100 and VRU 200 vent stacks will be routed to the VRU flare and associated flare gas recovery system FGRS3.

(b) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.5.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance Determination Requirements

D.5.4 Operating Requirement

In order to demonstrate compliance with Condition D.5.3, following the completion of the WRMP project, the pressure relief discharges from VRU 100 and VRU 200 shall be routed to the VRU flare and associated flare gas recovery system FGRS3. The flare must be operated with a flame present at all times that VRU 100 or VRU 200 is in operation.

Compliance Monitoring Requirements

D.5.5 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8][326 IAC 12][40 CFR 60, Subpart GGGa]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.6 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.5.1(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.5.1(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.5.2, the Permittee shall keep records as specified in Sections E.1 and E.3.

(d) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.5.2, the Permittee shall keep records as specified in Section E.6.

(e) To document the compliance status with Condition D.5.1(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.5.7 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.5.1(a), the Permittee shall submit reports as specified in the LDAR plan

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.5.1(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.5.2, the Permittee shall submit reports as specified in Sections E.1 and E.3.

(d) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.5.2, the Permittee shall submit reports as specified in Section E.6.

(e) To document the compliance status with Condition D.5.1(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.6 FACILITY OPERATION CONDITIONS - Vapor Recovery Units 300 and 400

Facility Description [326 IAC 2-7-5(14)]:

(f) (A) The Vapor Recovery Unit 300 (VRU 300), identified as Unit ID 150. Light ends and naphtha are separated in the VRU using a series of distillation towers. This unit is connected to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. As part of the WRMP Project, there will be upgrades made to various distillation towers, compressor K-340, and associated piping at VRU 300. Upon completion of WRMP, some portions of VRU 300 will be connected to the South Flare and associated flare gas recovery system FGRS1 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) off-gas knock out drum (D-400), which exhausts to the VRU flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(2) Leaks from process equipment, including two (2) compressors (identified as K-340 and K-351), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(B) Vapor Recovery Unit VRU 400 for the New Coker (#2 Coker), permitted in 2008, to be installed as part of the WRMP project. This unit is connected to the South Flare and associated flare gas recovery system FGRS1 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes leaks from process equipment, including one (1) compressor (identified as K-401), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems. The facility may also include insignificant activities listed in Section A.4 of this permit.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC for VRU 300 and VRU 400 from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors,

pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems for VRU 300 and VRU 400.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the VRU 300 is an affected facility pursuant to 40 CFR 60, Subpart GGGa, , upon the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the VRU 300 no later than one year from the “Date of Entry” of the Consent Decree entered in Civil No. 2:12-CV-00207.

(2) VRU 300 shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGGa at VRU 300 satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the VRU 400 is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the VRU 400 no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(e) Compressor K-401 at VRU 400 and upon completion of modifications to compressor K-340 at VRU 300, compressors K-401 and K-340 are affected facilities pursuant to 40 CFR Part 60, Subpart GGGa, and the Permittee shall comply with the requirements specified in Sections E.25 and E.26 for equipment leaks of VOC from compressors for K-401 and K-340.

D.6.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.6.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.6.3 Wastewater / Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.6.4 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions from the off gas knock-out drum (D-400), which are routed to the VRU Flare and associated flare gas recovery system FGRS3. Requirements for the VRU Flare and FGR3 are included in Section D.35.

Compliance Monitoring Requirements

D.6.5 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.6 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.6.1(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.6.1(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.6.4, the Permittee shall keep records as specified in Section E.1.

(d) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.6.3, the Permittee shall keep records as specified in Sections E.1 and E.3.

(e) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.6.3, the Permittee shall keep records as specified in Section E.6.

(f) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Conditions D.6.1(c), (d) and (e), the Permittee shall keep records as specified in Sections E.25 and E.26.

(g) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.6.7 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.6.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.6.1(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.12.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.6.4, the Permittee shall submit reports as specified in Section E.1.

(d) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Conditions D.6.3(a) and (c), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(e) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Conditions D.6.3(b), the Permittee shall submit reports as specified in Section E.6.

(f) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Conditions D.6.1(c), (d) and (e), the Permittee shall submit reports as specified in Sections E.25 and E.26.

(g) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.7 FACILITY OPERATION CONDITIONS - Alkylation Unit

Facility Description [326 IAC 2-7-5(14)]:

(g) The Alkylation Unit, identified as Unit ID 140, combines isobutane with butylenes and propylenes to produce alkylate. The alkylate, a high octane naphtha, is blended into gasoline. This unit was built in 1961 and expanded in 1989. This unit is connected to the Alky Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions emitted during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) off gas knock-out drum (D-22), which exhausts to the Alky Flare and associated flare gas recovery system FGRS3 (included in Section D.35).

(2) One (1) spent acid stripper drum (D-13), which exhausts to the Alky Flare and associated flare gas recovery system FGRS3 (included in Section D.35).

(3) One (1) spent caustic drum (D-32), which exhausts to the Alky Flare and associated flare gas recovery system FGRS3 (included in Section D.35).

(4) Leaks from process equipment, including two (2) compressors (identified as K-1 and K-1A), valves, pumps, pressure relief devices, sampling connection systems, and instrumentation and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the Alkylation Unit.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Alkylation Unit is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open -ended valve or line, and flange or other

connector in VOC service at the Alkylation Unit no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The Alkylation Unit shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the initial notification and testing requirements under 40 CFR §§ 60.7(a), 60.8(a), 60.482-1a(a) and 60.487a(e) that are triggered by initial applicability of 40 CFR Part 60, Subparts A and GGGa.

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGGa at the Alkylation Unit satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

D.7.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.7.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.7.3 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions from the off gas knock-out drum (D-22), which are routed to the Alky Flare and associated flare gas recovery system FGRS3. Requirements for the Alky Flare and FGRS3 are included in Section D.35.

D.7.4 Wastewater/Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ] [326 IAC 14] [40 CFR 61, Subpart FF]

(a) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems subject to 40 CFR 60, Subpart QQQ.

(b) Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

Compliance Monitoring Requirements

D.7.5 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.6 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.7.1, the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 60, Subpart GGGa and to document the compliance status with Conditions D.7.1(b) and (c), the Permittee shall keep records as specified in Sections E.1, E.4, E.25 and E.26.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.7.3, the Permittee shall keep records as specified in Section E.1.

(d) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF to document the compliance status with Condition D.7.4, the Permittee shall keep records as specified in Sections E.3 and E.6.

(e) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.7.7 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.7.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 60, Subpart GGGa and to document the compliance status with Conditions D.7.1(b) and (c), the Permittee shall submit reports as specified in Sections E.1, E.4 E.25 and E.26.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.7.3, the Permittee shall submit reports as specified in Section E.1.

(d) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.7.4, the Permittee shall submit reports as specified in Sections E.3 and E.6.

(e) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.8 FACILITY OPERATION CONDITIONS - Propylene Concentration Unit

Facility Description [326 IAC 2-7-5(14)]:

(h) The Propylene Concentration Unit (PCU), identified as Unit ID 145, purifies propylene for sale to chemical plants and eventual manufacture into polypropylene plastic. This unit also has a treating system, which purifies propane. This unit is connected to the Alky Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The facility includes a caustic degassing drum (D-100) that is vented to the Alky Flare or FGRS3 and leaks from process equipment, including one compressor (identified as K-104), pumps, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems. This facility may include insignificant activities listed in Section A.4 of this permit.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.8.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [3267 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the Propylene Concentration Unit.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Propylene Concentration Unit is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Propylene Concentration Unit no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The Propylene Concentration Unit shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect

to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.8.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.8.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.8.3 Wastewater / Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ] [326 IAC 14] [40 CFR 61, Subpart FF]

(a) Prior to the completion of any modification to a potentially affected facility per 40 CFR 60, Subpart QQQ, the Permittee shall make a determination as to whether 40 CFR 60, Subpart QQQ has been triggered. If the Permittee determines that Subpart QQQ has been triggered, the Permittee shall comply with the requirements of that rule for individual drain systems, oil water separators, and closed vent systems and control devices upon implementation of the changes.

(b) Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

Compliance Monitoring Requirements

D.8.4 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.8.5 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.8.1(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Conditions D.8.1(b) and (c), the Permittee shall keep records as specified in Sections E.1, E.4, E.25 and E.26.

(c) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.8.3, the Permittee shall keep records as specified in Sections E.3 and E.6.

(d) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.8.6 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.8.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Conditions D.8.1(b) and (c), the Permittee shall submit reports as specified in Sections E.1, E.4, E.25 and E.26.

(c) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.8.3, the Permittee shall submit reports as specified in Sections E.3 and E.6.

(d) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.9 FACILITY OPERATION CONDITIONS - Isomerization Unit

Facility Description [326 IAC 2-7-5(14)]:

(i) The Isomerization Unit (ISOM), identified as Unit ID 210, was constructed in 1985 as a conversion of the No.2 Ultraformer. The Isomerization process converts low octane naphtha into high octane gasoline blending components. This unit is connected to, the UIU Flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. As part of the MSAT II Compliance project approved in 2011 for construction, one (1) new C-250 Naphtha Splitter, a benzene saturation reactor system, and associated equipment (collectively identified as the Naphtha Splitter Unit) will be installed in the ISOM. The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit.

(1) One (1) natural gas, refinery gas, or liquified petroleum gas-fired Process Heater H-1, rated at 190 mmBTU/hr and vented to stack S/V 210-01.

(2) One (1) Flare Knock-out Drum (ISOM D-18), which exhausts to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35).

(3) Leaks from process equipment, including one (1) compressor (identified as K-1), pumps, valves, process drains and pressure relief devices and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.9.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), PM_{10} emissions from the ISOM H-1 Heater (also known as No. 2 Isomerization Feed Heater) furnace shall not exceed 0.0075 lb/mmBTU and 1.416 lb/hr.

D.9.1.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), filterable PM_{10} emissions from the ISOM H-1 Heater shall not exceed 0.004 lb/mmBTU and 0.704 lb/hr.

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.9.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.9.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3(a)(5), sulfur dioxide emissions from the ISOM H-1 Heater shall not exceed 0.034 lb/mmBTU and 6.46 pounds per hour.

D.9.3 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

(a) In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the ISOM H-1 Heater upon issuance of Significant Permit Modification No. 089-25488-00453, unless otherwise specified:

(1) The emissions of NO_X shall not exceed 0.275 pounds per million BTU.

(2) The emissions of VOC shall not exceed 0.0054 pounds per million BTU.

(3) The emissions of SO_2 shall not exceed 7.4 tons per 12 consecutive month period after the completion of the WRMP project.

(4) The emissions of PM_{10} shall not exceed 0.0075 pounds per million BTU.

(5) Pursuant to SSM 089-32033-00453, the emissions of PM shall not exceed 0.0075 pounds per million BTU.

(6) The emissions of CO shall not exceed 0.082 pounds per million BTU.

(7) The Permittee shall comply with the following limit on firing rate, following the completion of the WRMP project:

Unit ID	Firing rate (10^3 mmBTU) per 12 consecutive month period
ISOM H-1	1342.03

(8) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.9.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

(b) In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable to the MSAT II Compliance Project, the Permittee shall comply with the following upon issuance of Significant Permit Modification No. 089-29033-00453, unless otherwise specified:

(1) Utility hydrogen to the benzene saturation reactor battery limits shall be supplied by the New Hydrogen Unit (HU), Unit ID 801, and not by the existing HU, Unit ID 698.

(2) The combined steam energy usage for the C-250 system (E-253A/B, E-251) and the C-1 system (E-9A) shall not exceed 1,687,693 mmBTU per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limitations will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, less than ten (10) tons of $PM_{2.5}$ per year, less than forty (40) tons per year of NO_X, less than forty (40) tons of SO_2 per year, less than 100 tons of CO per year, less than seven (7) tons of H_2SO_4 per year, less than 0.6 tons of lead per year, less than 0.1 tons of mercury per year, less than 0.0004 tons of beryllium per year, less than ten (10) tons of H_2S per year, and less than twenty-five (25) tons per year of VOC. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable.

D.9.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to SPM 089-15202-00003, issued on April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in E.2 for the ISOM H-1 Heater.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the ISOM Heater H-1 shall be an affected facility for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for the ISOM H-1 Heater.

D.9.5 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)[326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [3267 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the ISOM Unit.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the ISOM Unit shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the ISOM Unit no later than one year from the “Date of Entry” of the Consent Decree entered in Civil No. 2:12-CV-00207.

(2) The ISOM Unit shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.9.6 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions-from the off gas knock-out drum (ISOM D-18), which are routed to the UIU Flare and associated flare gas recovery system FGRS4. Requirements for the UIU Flare and FGRS4 are included in Section D.35.

D.9.7 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.9.8 SOCMI Distillation Operations [326 IAC 12] [40 CFR 60, Subpart NNN]

Pursuant to 40 CFR 60, Subpart NNN, the Permittee shall comply with the requirements specified in Section E.27 for each distillation unit subject to 40 CFR 60, Subpart NNN.

Compliance Determination Requirements

D.9.9 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued April 24, 2002, "fuel oil" shall not be used as fuel for the ISOM H-1 Heater.

D.9.10 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in the ISOM H-1 Heater shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.9.11 Compliance Determination Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.9.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

(b) Compliance with the hydrogen usage requirement in Condition D.9.3(b)(1) shall be determined by maintaining the hydrogen supply pressure to the benzene saturation reactor at not less than 295 psig during any time the reactor is in operation.

(c) Compliance with the steam energy usage limit in Condition D.9.3(b)(2) shall be determined by an energy balance calculation, as follows:

Energy Demand (MMBtu/yr) =

$E_{in,400\#}$ (MMBtu/yr) + $E_{in,100\#}$ (MMBtu/yr) + $E_{in,BFW}$ (MMBtu/yr) - $E_{out,100\#}$ (MMBtu/yr) - $E_{out,10\#}$ (MMBtu/yr) - $E_{out,condensate}$ (MMBtu/yr)

Where: E_x (MMBtu/yr) = F_x (lb x/hr) * H_x (Btu/lb) * 10^{-6} (MMBtu/Btu) * 8760 (hr/yr);
F_x (lb x/hr) = steam, condensate, or boiler feed water mass flow rate; and
H_x (Btu/lb) = enthalpy of steam, condensate, or boiler feed water based on known conditions (superheated or saturated, and temperature and/or pressure).

D.9.12 Performance Testing Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall conduct performance tests to measure the emissions of NO_X from the ISOM H-1 Heater once every 5 years. For the measurement of NO_X emissions, the Permittee shall comply with the performance test protocols established by EPA Method 7E in conjunction with either EPA Method 19 or EPA Methods 1, 2, 3 and 4, or an EPA-approved alternative test method.

Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X testing of the ISOM H-1 Heater.

(b) Pursuant to SSM 089-32033-0045, the Permittee shall perform PM, PM_{10}, CO, and VOC testing of the ISOM H-1 Heater at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for PM, PM_{10}, CO, and VOC testing of the ISOM H-1 Heater.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.9.13 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in the ISOM H-1 Heater. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR §

60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Condition D.9.3 and D.9.10, the Total Sulfur Continuous Analyzer shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limit from the ISOM H-1 Heater in accordance with the applicable requirements in - Section C - Maintenance of Continuous Emission Monitoring Equipment and - Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements

D.9.14 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.9.15 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.9.2 and D.9.9, the Permittee shall maintain a daily record of the following for the ISOM H-1 Heater:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.9.1, the Permittee shall maintain records for the ISOM H-1 Heater as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.9.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.9.5(a), the Permittee shall comply with equipment leak record keeping requirements as specified in the LDAR plan.

(e) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.9.5(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(f) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.9.6, the Permittee shall keep records as specified in Sections E.1.

(g) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 60, Subpart QQQ, and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.9.7, the Permittee shall keep records as specified in Section E.1, E.3, and E.6.

(h) In order to document the compliance status with Condition D.9.3, the Permittee shall maintain records of monthly firing rates and SO_2 emissions for the ISOM H-1 Heater.

(i) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.9.13, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(j) To document the compliance status with Condition D.9.3(b)(1), the Permittee shall maintain daily records of the hydrogen supply pressure to the benzene saturation reactor battery limit.

(k) To document the compliance status with Condition D.9.3(b)(1), the Permittee shall maintain daily records of the operational status of the benzene saturation reactor.

(l) To document the compliance status with Condition D.9.3(b)(2), the Permittee shall maintain a daily record of the steam, condensate, and boiler feed water mass flow rates for the C-250 and C-1 systems.

(m) Pursuant to 40 CFR 60, Subpart NNN and to document the compliance status with Condition D.9.8, the Permittee shall keep records as specified in Section E.27.

(n) To document the compliance status with Condition D.9.5(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(o) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (h), (i), (j), (k) and (l) of this condition.

D.9.16 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.9.2 and D.9.9, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the ISOM H-1 Heater.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.9.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.9.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.9.5(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(e) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.9.6, the Permittee shall submit reports as specified in Section E.1.

(f) In order to document the compliance status with Condition D.9.3, the Permittee shall submit a quarterly summary of monthly firing rates and SO_2 emissions for the ISOM H-1 Heater not later than thirty (30) days after the end of the quarter being reported.

(g) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.9.3 and D.9.13, the Permittee shall submit reports of excess SO_2 emissions at the ISOM H-1 heater not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments

(h) A quarterly report of the information to document the compliance status with Condition D.9.3(b)(2) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(i) Pursuant to 40 CFR 60, Subpart NNN and to document compliance with Condition D.9.8, the Permittee shall submit reports as specified in Section E.27.

(j) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 60, Subpart QQQ, and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.9.7, the Permittee shall submit reports as specified in Section E.1, E.3, and E.6.

(k) To document compliance with Condition D.9.5(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (f), (g), and (h) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.10 FACILITY OPERATION CONDITIONS - Aromatics Recovery Unit

Facility Description [326 IAC 2-7-5(14)]:

(j) The Aromatic Recovery Unit (ARU), identified as Unit ID 242, consists of the ARU 200 section and the ARU 300 section. The primary function is to remove light ends from naphtha to obtain a more desirable reforming feed. Its secondary function is to separate xylene, a chemical feedstock, from the Ultraformer product. The ARU utilizes a series of distillation towers to purify reformer feed and another set of towers to separate chemical feedstocks. The ARU includes the following process units and may include insignificant activities listed in Section A.4 of this permit.

(1) The following process heaters, which are fired with refinery gas, natural gas or liquified petroleum gas.

Heater Identification	Construction Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-200A	1978	249.5	242-01	None
F-200B	1978	249.5	242-02	None

(2) The ARU is connected to the 4UF flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(3) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connections systems, open-ended line or valves, flanges and other connectors and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.10.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), PM_{10} emissions from the following ARU (Aromatic Recovery Unit) furnaces shall not exceed the following emission limitations:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
F-200A	0.0075	1.859
F-200B	0.0075	1.859

D.10.1.2Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), filterable PM_{10} emissions from the following ARU combustion units shall not exceed the following emission limitations:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
F-200A	0.004	0.924
F-200B	0.004	0.924

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.10.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.10.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3(a)(8), sulfur dioxide emissions from the ARU combustion units, F-200A and F-200B, shall not exceed 0.035 pounds per mmBTU and a total for both F-200A and F-200B of 17.47 pounds per hour.

D.10.3 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for heaters F-200A and F-200B upon issuance of Significant Permit Modification No. 089-25488-00453, unless otherwise specified:

(a) The emissions of NO_X shall each not exceed 0.275 pounds per million BTU.

(b) The emissions of CO shall each not exceed 0.082 pounds per million BTU.

(c) The emissions of VOC shall each not exceed 0.0054 pounds per million BTU.

(d) The emissions of PM_{10} shall each not exceed 0.0075 pounds per million BTU.

(e) Pursuant to SSM 089-32033-00453, the emissions of PM shall each not exceed 0.0075 pounds per million BTU.

(f) The Permittee shall comply with the following limits, following the completion of the WRMP project:

Unit ID	Firing Rate (10^3 mmBTU) per 12 month period	SO_2 (tons per 12 consecutive month period)
F-200A	930.75	5.1
F-200B	930.75	5.1

(g) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.10.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.10.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR, Subpart Ja]

(a) Pursuant to 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for the F-200A and F-200B Process Heaters.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, ARU Heaters F-200A and F-200B shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for ARU F-200A and F-200B.

D.10.5 Equipment Leaks of Volatile Organic Compounds and Hazardous Air Pollutants [326 IAC 8-4-8] [36 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart J] [326 IAC 12][40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with Sections E.1 and E.4 for the equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at ARU 200 and ARU 300.

(c) Pursuant to 40 CFR 61, Subpart J, the Permittee shall control benzene leaks from the pumps, pressure relief devices, sampling connection systems, open-ended valves, open-ended lines, and valves in accordance with requirements in Section E.5.

(d) Pursuant to 40 CFR 63.640(p), equipment that is subject to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart J is required only to comply with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(e) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the ARU 200 & ARU 300 are affected facilities pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other

connector in VOC service at the ARU 200 and ARU 300 no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The ARU 200 and ARU 300 shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGGa at ARU 200 & ARU 300 satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

D.10.6 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil-water separators, and closed-vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Prior to the completion of any modification to a potentially affected facility per 40 CFR 60, Subpart QQQ, the Permittee shall make a determination as to whether 40 CFR 60, Subpart QQQ has been triggered. If the Permittee determines that Subpart QQQ has been triggered, the Permittee shall comply with the requirements of that rule for individual drain systems, oil water separators, and closed vent systems and control devices upon implementation of the changes.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.10.7 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued April 24, 2002 and effective June 1, 2003, "fuel oil" shall not be used as fuel for the F-200A and F-200B Process Heaters.

D.10.8 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in F-200A and F-200B shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.10.9 Compliance Determination Requirements

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.10.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

D.10.10 Performance Testing Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall conduct performance tests to measure emissions of NO_X from the ARU Heaters F-200A and F-200B once every five years. For the measurement of NO_X emissions, the Permittee shall comply with the performance test protocols established by EPA Method 7E in conjunction with either EPA Method 19 or EPA Methods 1, 2, 3 and 4, or an EPA-approved alternative test method.

Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X testing for the ARU Heaters F-200A and F-200B.

(b) Pursuant to SSM 089-32033-00453, the Permittee shall perform PM, PM10, CO, and VOC testing of Heaters F-200A and F-200B. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for PM, PM10, CO, and VOC testing of Heaters F-200A and F-200B.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.10.11 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in ARU Heaters F-200A and F-200B. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Conditions 10.3(f) and D.10.8, the Total Sulfur Continuous Analyzer shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limits for F-200A and F-200B in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements

D.10.12 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.13 Recordkeeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1) and to document the compliance status with Conditions D.10.2, and D.10.7, the Permittee shall maintain a daily record of the following for the F-200A and F-200B Process Heaters:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.10.1, the Permittee shall maintain records for the process heaters F-200A and F-200B as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.10.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.10.5(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) To document the compliance status with the equipment leak standards of 40 CFR 63, Subpart CC and to document compliance with Condition D.10.5(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(f) Pursuant to 40 CFR 61, Subpart J and to document the compliance status with Condition D.10.5(c), the Permittee shall keep records as specified in Section E.5.

(g) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.10.6, the Permittee shall keep reports as specified in Sections E.1 and E.3.

(h) In order to document the compliance status with Condition D.10.3, the Permittee shall maintain records of the monthly firing rates and SO_2 emissions for F-200A and F-200B.

(i) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.10.11, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,

(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
(A) Date of facility downtime,
(B) Time of commencement and completion of downtime, and
(C) Reason for each downtime.

(j) To document compliance with Condition D.10.5(e), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(k) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (h), and (i) of this condition.

D.10.14 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.10.2 and D.10.7, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the F-200A and F-200B Process Heaters.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.10.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.10.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.10.5(b), the Permittee shall submit reports as specified in Section E.1 and E.4.

(e) Pursuant to 40 CFR 61, Subpart J and to document the compliance status with Condition D.10.5(c), the Permittee shall submit reports as specified in Section E.5.

(f) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 61, Subpart FF and to document the compliance status with Condition D.10.6, the Permittee shall submit reports as specified in Sections E.1 and E.3.

(g) In order to document the compliance status with Condition D.10.3, the Permittee shall submit a quarterly summary of the monthly firing rates and SO_2 emissions at F-200A and F-200B not later than thirty (30) days after the end of the quarter being reported.

(h) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.10.3 and D.10.11, the Permittee shall submit reports of excess SO_2 emissions at heaters F-200A and F-200B not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.

(5) A summary itemizing the exceedances by cause.

(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(A) Date of downtime.

(B) Time of commencement.

(C) Duration of each downtime.

(D) Reasons for each downtime.

(E) Nature of system repairs and adjustments

(i) To document compliance with Condition D.10.5(e), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(j) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (g) and (h) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.11 FACILITY OPERATION CONDITIONS - Blending Oil Unit

Facility Description [326 IAC 2-7-5(14)]:

(k) The Blending Oil Unit (BOU), identified as Unit ID 250, uses hydrogen to convert sulfur to hydrogen sulfide and remove it from distillate and gas oil streams to meet product specifications. The hydrogen sulfide is sent to the Claus Trains for further processing. The BOU is connected to the 4UF flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. As part of the WRMP Project, the BOU heater F-401 will be modified by replacing burners, with rated capacity remaining at 35 mmBTU/hr. The facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) process Furnace F-401, constructed in 1972, and modified as part of WRMP, which vents to stack ID SV250-01. The furnace is rated at 35 million Btu per hour and is fired by natural gas, refinery gas or liquid petroleum gas.

(2) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), PM_{10} emissions from the F-401 BOU (Blending Oil Desulfurization) Process Furnace shall not exceed 0.0075 lb/mmBTU and 0.261 lb/hour.

D.11.1.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), filterable PM_{10} emissions from the F-401 Process Furnace shall not exceed 0.004 lb/mmBTU and 0.130 lb/hour.

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.11.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.11.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide emissions from the F-401 Process Furnace shall not exceed 0.034 lb/mmBTU and 1.19 lbs/hour.

D.11.3 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the BOU Heater F-401 upon issuance of Significant Permit Modification No. 089-25488-00453, unless otherwise specified:

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the emissions of NO_X shall not exceed 0.098 pounds per million BTU.

(b) The emissions of CO shall not exceed 0.082 pounds per million BTU.

(c) The emissions of VOC shall not exceed 0.0054 pounds per million BTU.

(d) The emissions of PM_{10} shall not exceed 0.0075 pounds per million BTU.

(e) Pursuant to SSM 089-32033-00453, the emissions of PM shall not exceed 0.0075 pounds per million BTU.

(f) The Permittee shall comply with the following limits following the completion of the WRMP project:

Unit ID	Firing rate (10^3 mmBTU) per 12 month period	SO_2 tons per 12 consecutive month period
F-401	288.38	1.6

(g) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.11.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.11.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for the F-401 Process Furnace.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, BOU Heater F-401 shall be an affected facility for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for BOU F-401.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, BOU Heater F-401 shall be an affected facility for NO_X as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja for NO_X emissions for process heaters by the date specified in 40 CFR 60, Subpart Ja. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for BOU Heater F-401.

D.11.5 Equipment Leaks of Volatile Organic Compounds (VOC) [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the BOU.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the BOU is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the BOU no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The BOU shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.11.6 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC, and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for drains systems subject to the 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for drain systems subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.11.7 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued April 24, 2003, effective June 1, 2003, "fuel oil" shall not be used as fuel for the BOU Heater F-401 .

D.11.8 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in BOU Heater F-401 shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12- month rolling average" basis.

D.11.9 Compliance Determination Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.11.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the NO_X emissions limit in Condition D.11.3(a) for BOU Heater F-401 shall be calculated using 40 CFR Part 60, Appendix A, Method 19 and the NO_X concentration measured in the most recent stack test demonstrating compliance per Condition D.11.10.

D.11.10 Performance Testing Requirements

Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the modified BOU Heater F-401, the Permittee shall perform NO_X, PM, PM10, CO, and VOC testing of the modified BOU Heater F-401 utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.11.11 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in BOU Heater F-401. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately

represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Conditions D.11.3 and D.11.8, the Total Sulfur Continuous Analyzer shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limits for F-401 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements

D.11.12 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.11.13 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.11.2, and D.11.7, the Permittee shall maintain a daily record of the following for the BOU Heater F-401:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.11.1, the Permittee shall maintain records for the F-401 Process Furnace as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.11.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.11.5(a), the Permittee shall comply with equipment leak record keeping requirements as specified in the LDAR plan.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.11.6(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(f) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.11.6(b), the Permittee shall keep records as specified in Section E.6.

(g) In order to document the compliance status with Condition D.11.3, the Permittee shall maintain the records of monthly firing rate and SO_2 emissions at F-401.

(h) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.11.11, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(i) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.11.5(b) and (c), the Permittee shall maintain the records specified in Sections E.1, E.4, E.25 and E.26.

(j) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (g), and (h) of this condition.

D.11.14 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.11.2 and D.11.7, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the F-401 Process Furnace.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.11.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.11.5, the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC 40 CFR 61, Subpart FF and to document the compliance status with Condition D.11.6(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(e) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.11.6(b), the Permittee shall submit reports as specified in Section E.6.

(f) In order to document the compliance status with Condition D.11.3, the Permittee shall submit a quarterly summary of the monthly firing rate and SO_2 emissions at F-401 not later than thirty (30) days after the end of the quarter being reported.

(g) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.11.3 and D.11.11, the Permittee shall submit reports of excess SO_2 emissions at heater F-401 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,

(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.

(5) A summary itemizing the exceedances by cause.

(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(A) Date of downtime.

(B) Time of commencement.

(C) Duration of each downtime.

(D) Reasons for each downtime.

(E) Nature of system repairs and adjustments

(h) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.11.5(b) and (c), the Permittee shall submit reports as specified in Sections E.1, E.4, E.25 and E.26.

(i) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (b), (d), (g) and (h) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.12 FACILITY OPERATION CONDITIONS - No. 2 Treatment Plant

Facility Description [326 IAC 2-7-5(14)]:

(l) No. 2 Treatment Plant, identified as unit 601, removes disagreeable odors from various naphtha streams using a catalytic process. This facility has only fugitive emissions and/or other emissions that are considered insignificant.

The No. 2 Treatment Plant was shut down as of December 30, 2008.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

SECTION D.13 FACILITY OPERATION CONDITIONS - No. 4 Treatment Plant

Facility Description [326 IAC 2-7-5(14)]:

(m) No. 4 Treatment Plant, identified as unit 602, removes disagreeable odors from various naphtha and distillate streams using a catalytic process. This facility has only fugitive emissions and/or other emissions that are considered insignificant..

The No. 4 Treatment Plant was shut down as of June 17, 2010.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

SECTION D.14 FACILITY OPERATION CONDITIONS - Butane, Propane, and Propylene Storage and Loading Facilities

Facility Description [326 IAC 2-7-5(14)]

(n) Butane, Propane and Propylene Storage and Loading Facilities, identified as Unit ID 604, includes the following sources of emissions and may also include insignificant activities listed in Section A.4 of this permit:

(1) One (1) butane storage cavern located in South Tank Field.

(2) Seven (7) pressurized butane storage spheres located southwest of the main Refinery near the J&L Tank Field with a capacity of 1,050,000 gallons each.

(3) Propane (LPG) storage caverns and above-grade pressurized storage vessels located near the J&L Tank Field.

(4) Propane (LPG) railcar loading facilities located near the J&L Tank Field. These can also be used for loading butane into railcars.

(5) Pressurized polymer grade propylene (PGP) and refinery grade propylene (RGP) storage vessels located at the north east end of the Refinery.

(6) Propylene truck and railcar loading facilities located at the north east end of the Refinery, with emissions vented to the PIB flare, which is owned and operated by INEOS USA, LLC (Plant I.D. 089-00076).

(7) One (1) LPG loading area flare stack having stack number S/V 604-01, installed in 1986, which is used as a safety device which burns any vented gases that might result from relieving pressure on equipment.

(8) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges and other connectors.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.14.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Butane and Propane Storage and Loading Facilities and the Propylene Storage Facility shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the Butane and Propane Storage and Loading Facilities and the Propylene Storage Facility no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The Butane and Propane Storage and Loading Facilities and the Propylene Storage Facility shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Propylene Rail Loading Rack shall either comply with the requirements of 40 CFR 60, Subpart GGGa or discontinue operations by no later than December 31, 2012. Pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, the Propylene Rail Loading Rack shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves. Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.14.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.14.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.14.3 General Conditions for Pressurized Storage Tanks

Pursuant to OP 000204, issued March 8, 1996 by the Hammond Department of Environmental Management, the Permittee shall comply with the following requirements for pressurized spheres 3944, 3945, 3946, 3947, 3948, 3949, and 3950:

(a) The VOC emissions from the pressurized storage spheres shall not exceed 24.0 tons per year.

(b) The Permittee shall not vent the spheres so as to exceed average operating hours of 2.71 hours per month or 32.5 hours per year.

Compliance Monitoring Requirements

D.14.4 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.14.5 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.14.1(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.14.1(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 326 IAC 8-4-3(d), the Permittee shall maintain the following records for all petroleum liquid storage vessels with a capacity greater than 39,000 gallons:

(1) the type of volatile petroleum liquid stored,

(2) the maximum true vapor pressure of the liquid stored, and

(3) the results of inspections performed on the storage vessels.

(d) Pursuant to OP 000204, issued March 8, 1996 and to document the compliance status with Condition D.14.3, the Permittee shall record and maintain a log of the numbers of minutes of venting of the seven (7) pressurized spheres.

(e) To document compliance with Condition D.14.1(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (c) and (d) of this condition.

D.14.6 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.14.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.14.1(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(c) Pursuant to OP 000204, issued March 8, 1996 and to document the compliance status with Condition D.14.3, the Permittee shall submit a monthly report of the number of minutes each tank is vented.

(d) To document compliance with Condition D.14.1(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(e) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a) and (c) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.15 FACILITY OPERATION CONDITIONS - No. 3 Ultraformer Unit

Facility Description [326 IAC 2-7-5(14)]:

(o) The No.3 Ultraformer Unit (No. 3 UF), identified as Unit ID 220, commissioned in 1958. The majority of the unit was shutdown in March 2007, including the H-1, H-2 and F-7 heaters, catalyst filled reactors and the internal scrubbing system, controlling the regeneration vent during the coke burn-off and catalyst rejuvenation steps of the regeneration process. The C-2 Splitter Tower will be shut down and permanently decommissioned as part of the MSAT II Compliance project, approved in 2011 for construction. The unit now consists of the C2 D-18 flare gas separator, the D-24 knock-out drum and associated piping.

The No. 3 Ultraformer is connected to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, preparation of equipment for maintenance and reactor regenerations. The No.3 Ultraformer includes the following sources of emissions and may include insignificant activities listed in Section A.4 of this permit.

(1) One (1) flare gas separator (C2 D-18) with emissions vented to vessel D 24, which exhausts to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35).

(2) Leaks from process equipment, including one (1) compressor (identified as K-1), pumps, pressure relief devices, sampling connection systems, open ended valves or lines, and instrumentation and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.15.1 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

(a) In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Prior to the completion of the WRMP project, permanently shutdown No. 3 Ultraformer, including 3UF heaters H-1, H-2, and F-7, and the 3UF Reformer, except for the C2 Splitter Tower, the C2 D-18 flare gas separator, the D-24 knock-out drum and associated piping.

Compliance with requirement to shutdown the No. 3 Ultraformer including the heaters H-1, H-2, and F-7 and Reformer, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

(b) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.15.2. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.15.2 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the No. 3 Ultraformer.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the No.3 Ultraformer shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the No. 3 Ultraformer no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The No. 3 Ultraformer shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.15.3 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions from the C2 D-18 flare gas separator, which are routed to the UIU Flare and associated flare gas recovery system FGRS4. Requirements for the UIU Flare and FGRS4 are included in Section D.35.

D.15.4 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Monitoring Requirements

D.15.5 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.15.6 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.15.2(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.15.2(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.15.3, the Permittee shall keep records as specified in Section E.1.

(d) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.15.4(a), the Permittee shall keep records as specified in Sections E.1 and E.3.11.

(e) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.15.4(a), the Permittee shall keep records as specified in Section E.6.

(f) To document compliance with Condition D.15.2(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(g) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.15.7 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.15.2(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.15.2(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.15.3, the Permittee shall submit reports as specified in Section E.1.

(d) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Conditions D.15.4(a) and (c), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(e) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Conditions D.15.4(b) and (c), the Permittee shall submit reports as specified in Section E.6.

(f) To document compliance with Condition D.15.2(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(g) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.16 FACILITY OPERATION CONDITIONS - No. 4 Ultraformer Unit

Facility Description [326 IAC 2-7-5(14)]:

(p) The No.4 Ultraformer Unit (no. 4 UF), identified as Unit ID 224, built in 1972, upgrades low-octane naphtha to gasoline blending material and chemical feedstocks. The front-end of the unit is a desulfurization section. The reforming section consists of a series of process furnaces and catalyst-filled reactors in which the naphtha is heated and converted from straight chain to aromatic compounds. The reactor products are separated by distillation for further processing or blending into gasoline. D-1 will be upgraded to a two bed reactor as part of the WRMP project. The C-6 Ultraformate Splitter will be used as a Dehexanizer as part of the MSAT II Compliance project, approved in 2011 for construction. The No. 4 Ultraformer includes the following sources of emissions and may include insignificant activities listed in Section A.4 of this permit:

(1) Nine (9) process heaters, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-1	68	224-01	None
F-8A	163	224-01	None
F-8B	163	224-01	None
F-2	286	224-02	None
F-3	242	224-03	None
F-4	137	224-04	None
F-5	99	224-04	None
F-6	49	224-04	None
F-7	52	224-05	None

(2) The No. 4 Ultraformer is connected to the 4UF Flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system flare is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, preparation of equipment for maintenance, and reactor regenerations.

(3) Six (6) catalyst-filled reactors, which are vented to the 4UF Flare and associated flare gas recovery system FGRS4 during the initial catalyst depressuring and catalyst purging steps of the regeneration process.

(4) Leaks from process equipment, including two (2) compressors (identified as K-1 and K-7), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(5) One (1) caustic scrubbing system, controlling the regeneration vent during the coke burn-off and catalyst rejuvenation steps of the regeneration process, which removes HAP emissions. The scrubber system includes:

(A) One (1) caustic scrubber exhausting to stack 224-07;

(B) One (1) carbon adsorption system used to treat waste scrubber liquor prior to disposal; and

(C) Caustic feed unloading, storage, and transfer equipment.

(6) One (1) gas conditioning system, approved in 2013 for construction, consisting of drums, coolers, piping, pumps, and sewer components.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.16.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the Permittee shall not exceed the following PM_{10} emission limitations for the No. 4 UF (Ultraformer) process heaters:

Process Heater	PM_{10} Limit (lb/mmBTU)	PM_{10} Limit (lb/hour)
Stack serving F-1 furnace, F-8A (reboiler) and F-8B (reboiler)	0.0075	2.936
F-2 (preheater furnace)	0.0075	2.131
F-3 (no. 1 reheat furnace)	0.0075	1.803
Stack serving F-4 (no. 2 reheat furnace), F-5 (no. 3 reheat furnace) and F-6 (no. 4 reheat furnace)	0.0075	2.124
F-7	0.0075	0.387

D.16.1.2Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), the Permittee shall not exceed the following filterable PM_{10} emission limitations for the No. 4 UF process heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
stack serving F-1, F-8A and F-8B	0.004	1.459
F-2	0.004	1.059
F-3	0.004	0.896
stack serving F-4, F-5 and F-6	0.004	1.060
F-7	0.004	0.159

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.16.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.16.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, the Permittee shall comply with the following SO_2 emission limitations for the No. 4 UF process heaters:

Process Heater Identification	SO_2 Limit (lbs/mmBTU)	SO_2 Limit (lbs/hour)
F-1	0.033	13.0 total
F-8A	0.033	
F-8B	0.033	
F-2	0.033	9.44
F-3	0.033	7.99
F-4	0.033	9.41 total
F-5	0.033	
F-6	0.033	
F-7	0.033	1.72

D.16.3 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) For heaters F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6 and F-7, upon issuance of Significant Permit Modification No. 089-25488-00453, the emissions shall not exceed the following emissions limits:

Heater ID	NO_X (lb/mmBTU)	CO (lb/mmBTU)	VOC (lb/mmBTU)	PM_{10} (lb/mmBTU)
F-1	0.098	0.082	0.0054	0.0075
F-2	0.210	0.082	0.0054	0.0075
F-3	0.240	0.082	0.0054	0.0075
F-4	0.275	0.082	0.0054	0.0075
F-5	0.098	0.082	0.0054	0.0075
F-6	0.098	0.082	0.0054	0.0075
F-7	0.098	0.082	0.0054	0.0075
F-8A	0.275	0.082	0.0054	0.0075
F-8B	0.275	0.082	0.0054	0.0075

(b) Pursuant to SSM 089-32033-00453, the Permittee shall comply with the following limits following the completion of the WRMP project:

Unit ID	Firing rate (10^3 mmBTU) per 12 month period	SO_2 (tons per 12 consecutive month period)	PM (lb/mmBTU)
F-1	439.75	2.4	0.0075
F-8A	963.60	5.3	0.0075
F-8B	963.60	5.3	0.0075
F-2	1683.67	9.3	0.0075
F-3	1713.10	9.5	0.0075
F-4	965.03	5.3	0.0075
F-5	867.24	4.8	0.0075
F-6	429.24	2.4	0.0075
F-7	315.36	1.7	0.0075

(c) Pursuant to SSM 089-32033-00453, and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than December 31, 2016, the emissions of NO_X from Heater F-2 and Heater F-3 shall not exceed the following limits based on a "12-month rolling average":

Unit ID	NO_X (lb/mmBTU)
F-2	0.04
F-3	0.04

(d) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.16.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.16.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements in Section E.2 for the F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6, and F-7 Process Heaters.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, Heaters F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A and F-8B shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A and F-8B.

D.16.5 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)[326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the No. 4 Ultraformer.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the No. 4 Ultraformer is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the No. 4 Ultraformer no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The No. 4 Ultraformer shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the initial notification and testing requirements under 40 CFR §§ 60.7(a), 60.8(a), 60.482-1a(a) and 60.487a(e) that are triggered by initial applicability of 40 CFR Part 60, Subparts A and GGGa.

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGGa at No.4 Ultraformer satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

D.16.6 Requirements for 40 CFR Part 63, Subpart UUU

Pursuant to 40 CFR 63, Subpart UUU, the No. 4 Ultraformer Unit and associated bypass lines shall comply with the requirements of Section E.10.

D.16.7 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC, and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual wastewater drains systems and oil-water separators subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.16.8 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002, effective June 1, 2003, "fuel oil" shall not be used as fuel for the F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6, and F-7 Process Heaters.

D.16.9 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than December 31, 2016, the Permittee shall install, maintain, and continuously operate Ultra-Low NO_X burners on Heaters F-2 and F-3.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A and F-8B shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.16.10 Compliance Determination Requirements

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.16.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

D.16.11 Performance Testing Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall conduct performance tests to measure the emissions of NO_X once every five years from each of the following group of furnaces:

4UF Furnaces F-4, F-5 and F-6 (vented through a common stack, identified as 224-04)

4UF Furnaces F-1, F-8A and F8B (vented through a common stack, identified as 224-01)

For the measurement of NO_X emissions, the Permittee shall comply with the performance test protocols established by EPA Method 7E in conjunction with either EPA Method 19 or EPA Methods 1, 2, 3 and 4, or an EPA-approved alternative test method. The test results shall be compared against a calculated weighted average emission limit based on maximum allowable heater fired duty (mmBTU/hr).

Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X testing of:

4UF Furnaces F-4, F-5 and F-6 (vented through a common stack, identified as 224-04)

4UF Furnaces F-1, F-8A and F8B (vented through a common stack, identified as 224-01).

(b) Pursuant to SSM 089-32033-004, the Permittee shall perform PM, PM10, CO, and VOC testing of Heaters F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6, and F-7. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for PM, PM10, CO, and VOC testing of Heaters F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6, and F-7.

(c) Pursuant to SSM 089-32033-00453, the Permittee shall perform NO_X testing of Heater F-7. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X testing of Heater F-7.

(d) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.16.12 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in 4UF Heaters F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A and F-8B. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with Condition D.16.3(c), by no later than December 31, 2016 the Permittee shall install, operate, calibrate and maintain a NO_X CEMs on 4UF Heaters F-2 and F-3.

As specified by the Consent Decree entered in Civil No. 2:12-CV-00207 The Permittee shall install, certify, calibrate, maintain, and operate the NO_X CEMS in accordance with the provisions of 40 CFR § 60.13 that are applicable to CEMs (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B. Unless Appendix F requirements are specifically required by NSPS or state regulations, then in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct either a RAA or a RATA on each CEMS at least once every

three (3) years. The Permittee shall conduct a Cylinder Gas Audit each Calendar Quarter during which a RAA or a RATA is not performed.

(c) In order to demonstrate compliance with Conditions D.16.3(b), D.16.3(c), and D.16.9, the Total Sulfur Continuous Analyze and the NO_X emission monitoring systems (CEMS) shall be calibrated, maintained, and operated for determining compliance with SO_2 and NO_X emissions limits for F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A and F-8B in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements

D.16.13 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.16.14 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.16.2, and D.16.8, the Permittee shall maintain a daily record of the following for the F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6, and F-7 Process Heaters:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel type.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.16.1, the Permittee shall maintain records for the Process Heaters F-1, F-8A, F-8B, F-2, F-3, F-4, F-5, F-6 and F-7 as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.16.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.16.5(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.16.5(b), the Permittee shall keep records as specified in Section E.1 and E.4.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.16.7(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.16.7(b), the Permittee shall keep records as specified in Section E.6.

(h) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.16.6, the Permittee shall keep records as specified in Section E.10.

(i) In order to document the compliance status with Condition D.16.3, the Permittee shall maintain records of monthly firing rates and SO_2 emissions at F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A, and F-8B.

(j) Pursuant to 326 IAC 3-5- 6 and to document the compliance status with Condition D.16.12, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(k) To document compliance with Condition D.16.5(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (i) and (j) of this condition.

D.16.15 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.16.2, and D.16.8, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the F-1, F-8A, F-8B, F-2, F-3, F-4R, F-5, F-6, and F-7 Process Heaters.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.16.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.16.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.16.5(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.16.7(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(f) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.16.7(b), the Permittee shall submit reports as specified in Section E.6.

(g) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.16.6, the Permittee shall submit to IDEM, OAQ the reports specified in Section E.10.

(h) In order to document the compliance status with Condition D.16.3, the Permittee shall submit a quarterly summary of the monthly firing rates and SO_2 emissions at heaters F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A, and F-8B not later than thirty (30) days after the end of the quarter being reported.

(i) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.16.3 and D.16.12, the Permittee shall submit reports of excess SO_2 emissions at heaters F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8A, and F-8B not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments

(j) To document compliance with Condition D.16.5(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(k) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (h) and (i) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.17 FACILITY OPERATION CONDITIONS - Hydrogen Unit

Facility Description [326 IAC 2-7-5(14)]:

(q) The Hydrogen Unit (HU), identified as Unit ID 698, commissioned in 1993, produces 99+% pure hydrogen needed for the refinery hydrotreating processes. The HU produces high purity hydrogen by reacting steam with methane. The reaction is carried out by heating the mixture in a furnace and reacting it in the presence of a catalyst. The HU includes the following sources of emissions and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) natural gas, refinery gas or liquified petroleum gas fired B-501 Process Heater rated at 366.3 mmBTU/hr, which exhausts at stack S/V 698-01. The Process Heater is equipped with low- NO_X burners.

(2) One (1) DDU Flare exhausting at stack S/V 698-02, burning natural gas as the pilot gas, used to control VOC emissions during emergency situations, unit startups and shutdowns and depressuring equipment for maintenance.

(3) One (1) CO2 vent from the HU process. This vent has the potential to emit small amounts of methanol.

(4) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges and other connectors and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.17.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), PM_{10} emissions from the HU (hydrogen unit) B-501 Process Heater shall not exceed 0.0075 lb/mmBTU and 2.729 lb/hr.

D.17.1.2Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), filterable PM_{10} emissions from the B-501 HU Process Heater shall not exceed 0.009 lb/mmBTU and 3.340 lbs/hour.

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.1.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.17.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide emissions from the B-501 process heater shall not exceed 0.033 lbs/mmBTU and 12.09 lbs/hour.

D.17.3 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) Upon issuance of Significant Permit Modification No. 089-25488-00453, the emissions from B-501 shall not exceed the following limits:

Heater ID	NO_X (lb/mmBTU)	CO (lb/mmBTU)	VOC (lb/mmBTU)	PM_{10} (lb/mmBTU)
B-501	0.0675	0.02	0.0054	0.0075

(b) Pursuant to SSM 089-32033-00453, PM emissions from B-501 shall not exceed 0.0075 pounds per million BTU.

(c) After the completion of the WRMP project, the SO_2 emissions from B-501 shall not exceed 15.5 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) After the completion of the WRMP project, the firing rate at B-501 shall not exceed 2,809,332 million BTU per 12 consecutive month period, with compliance determined at the end of each month.

(e) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.17.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.17.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Supbart Ja]

(a) Pursuant to Permit CP 089-2055-00003, issued March 12, 1992 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements in Section E.2 for the HU Process Heater B-501and DDU Flare. The requirements for the DDU Flare are included in Section D.35.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, Hydrogen Unit Heater B-501 shall be an affected facility for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heater B-501.

D.17.5 Emission Offset and Prevention of Significant Deterioration [326 IAC 2-2] [326 IAC 2-3]

Pursuant to Permit CP 089-2055-00003 issued on March 12, 1992, the Permittee shall comply with the following emission limitations and operating conditions:

(a) Carbon Monoxide (CO) emissions from the B-501 Process Heater shall not exceed 0.02 lb/mmBTU.

(b) All compressor seals in volatile organic compound (VOC) service shall be purged and vented to the flare header.

(c) The Propane Dewaxing Unit and Asphalt Oxidizer Nos. 2 and 3 shall remain inoperative.

Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable.

D.17.6 Equipment Leaks of VOC and Hazardous Air Pollutants (HAPs)[326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the Hydrogen Unit.

(c) Pursuant to 40 CFR 60, Subpart GGG, the Permittee shall comply with the requirements specified in Sections E.4, and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the Hydrogen Unit. Pursuant to 40 CFR 63.640(p), equipment that is subject to both 40 CFR 60, Subpart GGG and 40 CFR 63, Subpart CC are required to comply only with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Hydrogen Unit shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the Hydrogen Unit no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect

to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.17.7 Wastewater/Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ] [326 IAC 14] [40 CFR 61, Subpart FF]

(a) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(b) Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

Compliance Determination Requirements

D.17.8 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002, effective June 1, 2003, “fuel oil” shall not be used as fuel for the B-501 Process Heater.

D.17.9 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in B-501 shall not exceed 70 ppmvd total sulfur calculated as H_2S on a “12-month rolling average” basis.

D.17.10 Compliance Determination Requirements

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.17.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

D.17.11 Performance Testing Requirements

(a) Pursuant to SSM 089-32033-00453 and as required in the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall conduct performance tests to measure emissions of NO_X from Heater B-501 once every five years. For the measurement of NO_X emissions, the Permittee shall comply with the performance test protocols established by EPA Method 7E in conjunction with either EPA Method 19 or EPA Methods 1, 2, 3 and 4, or an EPA-approved alternative test method.

Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee’s requirements with regards to the initial compliance demonstration for NO_X testing of Heater B-501.

(b) Pursuant to SSM 089-32033-00453, the Permittee shall perform CO, PM, PM10, and VOC testing of Heater B-501. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee’s requirements with regards to the initial compliance demonstration for CO, PM, PM10, and VOC testing of Heater B-501.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

D.17.12 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in Heater B-501. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Condition D.17.3(c), the Total Sulfur Continuous Analyzer and the NO_X emissions monitoring systems (CEMS) for B-501 shall be calibrated, maintained, and operated for determining compliance with SO_2 and NO_X emissions limit for B-501 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.17.13 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

D.17.14 Monitoring for Fuel Gas Combustion Device [326 IAC 12] [40 CFR 60, Subpart J]

Pursuant to 40 CFR 60.105(a)(4)(iv), the owner or operator of a fuel gas combustion device is not required to monitor the H2S content of the fuel gas for fuel gas streams that are inherently low in sulfur content. Per 40 CFR 60.105(a)(4)(iv)(C), fuel gas streams produced in a hydrogen plant are inherently low in sulfur content. Monitoring H2S in the fuel gas streams produced in the HU and combusted by the Heater B-501 is not required.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.17.15 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.17.2, and D.17.8, the Permittee shall maintain a daily record of the following for the B-501 process heater:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel type.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.17.1, the Permittee shall maintain records for Process Heater B-501 as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.17.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.17.6(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) Pursuant to 40 CFR 60, Subpart GGG, 40 CFR 63, Subpart CC, and to document the compliance status with Condition D.17.6(b), the Permittee shall keep records as specified in Sections E.1, E.4, and E.13.

(f) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.17.7, the Permittee shall keep records as specified in Sections E.3 and E.6.

(g) In order to document the compliance status with Condition D.17.3, the Permittee shall maintain records of monthly firing rate and SO_2 emissions at B-501.

(h) Pursuant to 326 IAC 3-5-6 and to document the compliance status with D.17.12, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(i) To document compliance with Condition D.17.6(d), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(j) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (g) and (h) of this condition.

D.17.16 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.17.2, and D.17.8, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the B-501 process heater.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.17.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.17.6(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 60, Subpart GGG, 40 CFR 63, Subpart CC, and to document the compliance status with Condition D.17.6(b), the Permittee shall submit reports as specified in Sections E.1, E.4, and E.13.

(e) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.17.7, the Permittee shall submit reports as specified in Sections E.3 and E.6.

(f) In order to demonstrate document the compliance status with Condition D.17.3, the Permittee shall submit a quarterly summary of the monthly firing rate and SO_2 emissions at heater B-501 not later than thirty (30) days after the end of the quarter being reported.

(g) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.17.3 and D.17.12, the Permittee shall submit reports of excess SO_2 emissions at heater B-501 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments

(h) To document compliance with Condition D.17.6(d), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(i) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (f) and (g) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.18 FACILITY OPERATION CONDITIONS - Distillate Desulfurizer Unit

Facility Description [326 IAC 2-7-5(14)]:

(r) The Distillate Desulfurizer Unit (DDU), identified as Unit ID 700, commissioned in 1993, removes sulfur from petroleum distillates. Distillate feed is mixed with hydrogen, heated in process furnaces and passed over a catalyst bed to convert sulfur compounds to H_2S. The DDU includes the following emissions sources and may include insignificant activities listed in Section A.4 of this permit:

(1) Process Heater B-301, rated at 64.8 mmBTU/hr and exhausting to stack S/V 700-01. The Process Heater is equipped with low- NO_X burners and burns natural gas, refinery gas, or liquified petroleum gas.

(2) Process Heater B-302, rated at 83.7 mmBTU/hr and exhausting to stack S/V 700-02. The Process Heater is equipped with low- NO_X burners and burns natural gas, refinery gas, or liquified petroleum gas.

(3) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges and other connectors and heat exchange systems.

(4) The Distillate Desulfurization Unit is connected to the DDU Flare System. The system is used to control VOC emissions during emergency situations, unit startups and shutdowns and depressuring equipment for maintenance.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.18.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the Permittee shall not exceed the following PM_{10} emission limitations for the DDU Process Heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
B-301	0.0075	1.106
B-302	0.0075	

D.18.1.2Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), the Permittee shall not exceed the following filterable PM_{10} emission limitations for the DDU Process Heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
B-301	0.004	0.250
B-302	0.004	0.240

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.18.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.18.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide emissions from the B-301 and B-302 process heaters shall each not exceed 0.033 lbs/mmBTU and the total emissions from both process heaters shall not exceed 4.24 lbs/hour.

D.18.3 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) For heaters B-301 and B-302, upon issuance of Significant Permit Modification No. 089-25488-00453, the emissions shall not exceed the following emissions limits:

Heater ID	NO_X (lb/mmBTU)	CO (lb/mmBTU)	VOC (lb/mmBTU)	PM_{10} (lb/mmBTU)
B-301	0.035	0.04	0.0054	0.0075
B-302	0.030	0.04	0.0054	0.0075

(b) Pursuant to SSM 089-32033-00453, the Permittee shall comply with the following limits, following the completion of the WRMP project:

Unit ID	Firing rate (10^3 mmBTU) per 12 consecutive month period	SO_2 tons per 12 consecutive month period	PM (lb/mmBTU)
B-301	1,191.36 (combined)	6.6 (combined)	0.0075
B-302			0.0075

(c) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.18.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.18.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to Permit SPM 089-15202-00003, issued April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for B-301 and B-302 process heaters.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, DDU Heaters B-301 and B-302 shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters B-301 and B-302.

D.18.5 Emission Offset and Prevention of Significant Deterioration (PSD) [326 IAC 2-2] [326 IAC 2-3]

The Permittee shall comply with the following emission limitations and operating conditions:

(a) Prior to completion of the WRMP project, nitrogen Oxide (NO_X) emissions from the B-301 and B-302 Process Heaters shall not exceed 0.065 lb/mmBTU. This is equivalent to total NO_X emissions of 36.6 tons per year from the B-301 and B-302 Process Heaters.

(b) Pursuant to permit CP 089-2055-0003 issued on March 12, 1992, and amended on February 19, 1999, carbon Monoxide (CO) emissions from the B-301 and B-302 Process Heaters shall not exceed 0.04 lb/mmBTU. This is equivalent to total CO emissions of 22.5 tons per year from the B-301 and B-302 Process Heaters.

(c) Prior to completion of the WRMP project, the input of natural gas and natural gas equivalents to Process Heaters B-301 and B-302 shall be limited to a total of 1089.7 million cubic feet (MMcf) per twelve (12) consecutive month period, with compliance determined at the end of every month. For the purpose of determining compliance with this limit, every one (1.0) MMcf of refinery gas usage shall be considered equivalent to one (1.0) MMcf of natural gas usage.

(d) Pursuant to permit CP 089-2055-0003 issued on March 12, 1992, and amended on February 19, 1999, all compressor seals in volatile organic compound (VOC) service shall be purged and vented to the flare header.

(e) Pursuant to permit CP 089-2055-0003 issued on March 12, 1992, and amended on February 19, 1999, the Propane Dewaxing Unit and Asphalt Oxidizer Nos. 2 and 3 shall remain inoperative.

Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable.

D.18.6 Equipment Leaks of VOC and Hazardous Air Pollutants (HAPs)[326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGG] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the

LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the DDU.

(c) Pursuant to 40 CFR 60, Subpart GGG, the Permittee shall comply with the requirements specified in Sections E.4, and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the DDU. Pursuant to 40 CFR 63.640(p), equipment that is subject to both 40 CFR 60, Subpart GGG and 40 CFR 63, Subpart CC are required to comply only with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the completion of modifications to the DDU authorized by SSM 089-25484-00453 or upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, whichever is sooner, the DDU shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the DDU no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.18.7 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.18.8 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002, effective June 1, 2003, "fuel oil" shall not be used as fuel for the B-301 and B-302 Process Heaters.

D.18.9 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in B-301 and B-302 shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.18.10 Compilance Determination Requirements

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.18.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

D.18.11 Performance Testing Requirements

Pursuant to SSM 089-32033-00453, the Permittee shall perform NO_X, PM, PM10, CO, and VOC testing of Heater B-301 and B-302 utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X, PM, PM10, CO, and VOC testing of Heater B-301 and B-302. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.18.12 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in DDU Heaters B-301 and B-302. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Conditions D.18.3(b) and D.18.9, the Total Sulfur Continuous Analyzer for B-301 and B-302 shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limits for B-301 and B-302 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring

Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.18.13 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.18.14 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.18.2, and D.18.8, the Permittee shall maintain a daily record of the following for the B-301 and B-302 process heaters:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel type.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.18.1, the Permittee shall maintain records for the B-301 and B-302 as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.18.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.18.6(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) Pursuant to 40 CFR 60, Subpart GGG, 40 CFR 63, Subpart CC and to document the compliance status with Condition D.18.6(b), the Permittee shall keep records as specified in Sections E.1, E.4, and E.13.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.18.7(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.18.7(b), the Permittee shall keep records as specified in Section E.6.

(h) In order to document the compliance status with Condition D.18.3, the Permittee shall maintain records of monthly firing rates and SO_2 emissions at B-301 and B-302.

(i) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.18.12, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
(A) design, installation, and testing of all elements of the monitoring system, and

(B) required corrective action or compliance plan activities.

(3) All maintenance logs, calibration checks, and other required quality assurance activities,

(4) All records of corrective and preventive action, and

(5) A log of plant operations, including the following:

(A) Date of facility downtime,

(B) Time of commencement and completion of downtime, and

(C) Reason for each downtime.

(j) In order to document the compliance status with Condition D.18.5(c), the Permittee shall maintain records of the monthly natural gas and natural gas equivalents usage at B-301 and B-302.

(k) To document compliance with Condition D.18.6(d), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (h), (i) and (j) of this condition.

D.18.15 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.18.2, and D.18.8, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the B-301 and B-302 process heaters.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.18.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.18.6(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 60, Subpart GGG, 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.18.6(b), the Permittee shall submit reports as specified in Sections E.1, E.4, and E.13.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.18.7(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(f) Pursuant to 40 CFR 60, Subpart QQQ and document the compliance status with Condition D.18.7(b), the Permittee shall submit reports as specified in Section E.6.

(g) In order to document the compliance status with Condition D.18.3, the Permittee shall submit a quarterly summary of the monthly firing rates and SO_2 emissions at heaters B-301 and B-302 not later than thirty (30) days after the end of the quarter being reported.

(h) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.18.3 and D.18.12, the Permittee shall submit reports of excess SO_2 at heaters B-301 and B-302 emissions not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
(A) Date of downtime.
(B) Time of commencement.
(C) Duration of each downtime.
(D) Reasons for each downtime.
(E) Nature of system repairs and adjustments

(i) In order to document the compliance status with Condition D.18.5(c), the Permittee shall submit a quarterly summary of the monthly natural gas and natural gas equivalents usage at B-301 and B-302 not later than thirty (30) days after the end of the quarter being reported.

(j) To document compliance with Condition D.18.6(d), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(k) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (g), (h) and (i) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.19 FACILITY OPERATION CONDITIONS - Cat Feed Hydrotreating Unit

Facility Description [326 IAC 2-7-5(14)]:

(s) The Cat Feed Hydrotreating Unit (CFHU), identified as Unit ID 171, built in 1982, removes sulfur from and improves the quality of gas oil feed to the Fluidized Cracking Units. The CFHU is connected to the 4UF flare and associated flare gas recovery system FGRS4 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The CFHU includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) Three (3) process heaters, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-801 A/B	66.5	171-01	low- NO_X burners
F-801C	60.0	171-02	ultra low- NO_X burners

(2) Leaks from process equipment, including pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges and other connectors and heat exchange systems.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.19.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the PM_{10} from each stack serving CFHU (Cat Feed Hydrotreating Unit) Process Heaters F-801A, F-801B and F-801C shall not exceed 0.0075 lb/mmBTU and 0.943 lb/hr.

D.19.1.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), PM_{10} (filterable) emissions from the CFHU Process Heaters F-801A/B shall be limited to 0.004 lbs/mmBTU and 0.246 lbs/hour.

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.19.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.19.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide emissions from the CFHU Process Heaters shall be limited as follows:

Process Heater Identification	SO_2 Limit (lbs/mmBTU)	SO_2 Limit (lbs/hour)
F-801A/B	0.035	2.33
F-801C	0.035	2.1

D.19.3 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) For heaters F-801A, F-801B, and F-801C, upon issuance of Significant Permit Modification No. 089-25488-00453, the emissions shall not exceed the following emissions limits:

Heater ID	NO_X (lb/mmBTU)	CO (lb/mmBTU)	VOC (lb/mmBTU)	PM_{10} (lb/mmBTU)
F-801A	0.049	0.082	0.0054	0.0075
F-801B	0.049	0.082	0.0054	0.0075
F-801C	0.036	--	0.0054	0.0075

(b) Pursuant to SSM 089-32033-00453, the Permittee shall comply with the following limits following the completion of the WRMP project:

Unit ID	Firing rate (10^3 mmBTU) per 12 consecutive month period	SO_2 ton per 12 consecutive month period	PM (lb/mmBTU)	CO (lb/mmBTU)
F-801A	198.11	1.1	0.0075	--
F-801B	220.75	1.2	0.0075	--
F-801C	349.85	1.9	0.0075	0.082

(c) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.19.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.19.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to Permit SSM 089-14630-00003, issued on November 30, 2001 and 40 CFR 60.104(1)(a), the Permittee shall comply with the requirements specified in Section E.2 for the F-801 A/B and F-801C process heaters.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, CFHU Heaters F-801A, F-801B and F-801C shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for CFHU Heaters F-801A, F-801B and F-801C.

D.19.5 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the CFHU.

(c) Pursuant to 40 CFR 60, Subpart GGG, the Permittee shall comply with the requirements specified in Sections E.4, and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the CFHU. Pursuant to 40 CFR 63.640(p), equipment that is subject to both 40 CFR 60, Subpart GGG and 40 CFR 63, Subpart CC are required to comply only with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the CFHU shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the CFHU no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The CFHU shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.19.6 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.19.7 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SSM 089-14630-00003, issued on November 30, 2001, "fuel oil" shall not be used as fuel for the CFHU Heaters F-801A, F-801B and F-801C.

D.19.8 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to SSM 089-14630-00003, issued on November 30, 2001 and SPM 089-18588-00453, issued July 15, 2004, the Permittee shall comply with the following requirement:

Nitrogen oxide emissions from Furnace F- 801C shall be controlled by ultra low- NO_X burners having an emission rate of 0.040 pounds per million Btu or less. This limit equates to a potential to emit 10.51 tons of nitrogen oxides per year for Furnace F-801C. This condition renders the requirements of PSD as not applicable for nitrogen oxides.

D.19.9 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in F-801A, F-801B and F-801C shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.19.10 Compliance Determination Requirements

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.19.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

D.19.11 Performance Testing Requirements

Pursuant to SSM 089-32033-0045, the Permittee shall perform NO_X, PM, PM10, CO, and VOC testing of Heater F-801A, F-801B and F-801C utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X, PM, PM10, CO, and VOC testing of Heater F-801A, F-801B and F-801C. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.19.12 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in Heaters F-801A, F-801B and F-801C. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Conditions D.19.3(b) and D.19.9, the Total Sulfur Continuous Analyzer for F-801A, F-801B, and F-801C shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limits for F-801A, F-801B, and F-801C in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements

D.19.13 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.19.14 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.19.2, and D.19.7, the Permittee shall maintain a daily record of the following for the CFHU Process Heaters F-801A/B and F-801C:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.19.1, the Permittee shall maintain records for the F-801A/B process heater as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.19.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.19.5(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(e) Pursuant to 40 CFR 60, Subpart GGG, 40 CFR 63, Subpart CC, and to document the compliance status with Condition D.19.5(b), the Permittee shall keep records as specified in Sections E.1, E.4, and E.13.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, and to document the compliance status with Condition D.19.6(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.19.6(b), the Permittee shall keep records as specified in Section E.6.

(h) In order to document the compliance status with Condition D.19.3, the Permittee shall maintain records of monthly firing rates at F-801A, F-801B, and F-801C, and monthly emissions of SO_2 from F-801A, F-801B, and F-801C.

(i) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.19.12, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(j) To document compliance with Condition D.19.5(d), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d), (h) and (i) of this condition.

D.19.15 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.19.2, and D.19.7, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the CFHU Process Heaters F-801A/B and F-801C.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Conditions D.19.4, the Permittee shall submit the reports as specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.19.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 63, Subpart GGG, and to document the compliance status with Condition D.19.5(b), the Permittee shall submit reports as specified in Sections E.1, E.4, and E.13.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.19.6(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(f) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.19.6(b), the Permittee shall submit reports as specified in Section E.6.

(g) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.19.3 and D.19.12 the Permittee shall submit reports of excess SO_2 emissions at heaters F-801A, F-801B, and F-801C not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments

(h) In order to document the compliance status with Condition D.19.3, the Permittee shall submit a quarterly summary of the monthly firing rates at F-801A, F-801B, and F-801C, and monthly emissions of SO_2 from F-801A, F-801B, and F-801C not later than thirty (30) days after the end of the quarter being reported.

(i) To document compliance with Condition D.19.5(d), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(j) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (g) and (h) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.20 FACILITY OPERATION CONDITIONS - Catalytic Refining Unit

Facility Description [326 IAC 2-7-5(14)]:

(t) The Catalytic Refining Unit (CRU), identified as Unit ID 201, which removes sulfur from petroleum naphthas and distillates. Naphtha or distillate feed is mixed with hydrogen, heated in process furnaces and passed over a catalyst bed inside one of two reactor trains, identified as D-114 and D-105, to convert sulfur compounds to hydrogen sulfide. Hydrogen sulfide is subsequently removed from the product by distillation followed by scrubbing with an amine. The CRU includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) Two (2) heaters, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
F-101	72	201-01	Low- NO_X Burners
F-102A	60	201-02	Low- NO_X Burners

(2) The CRU is connected to the UIU flare and associated flare gas recovery system FGRS4. This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(3) Miscellaneous process vent emissions which are routed to the UIU flare and associated flare gas recovery system FGRS4 (identified in Section D.35).

(4) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

Main Operating Scenario:
The CRU operates as a naphtha hydrotreater. Maximum production under this scenario is 27,000 barrels per day.

Alternative Operating Scenario:
The CRU operates as a distillate hydrotreater. Maximum production under this scenario is 40,000 barrels per day.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.20.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the Permittee must comply with the following PM_{10} emission limitations for the No. 1 CRU (also known as unit ID 201) feed preheaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
F-101	0.0075	0.536
F-102A	0.0075	0.447

D.20.1.2Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), the Permittee must comply with the following filterable PM_{10} emission limitations for the CRU Process Heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
F-101	0.004	0.267
F-102A	0.004	0.290

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.20.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.20.2 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, the Permitted shall comply with the following SO_2 emission limitations for the CRU Process Heaters:

Process Heater Identification	SO_2 Limit (lbs/mmBTU)	SO_2 Limit (lbs/hour)
F-101	0.04	2.88
F-102A	0.04	2.40

D.20.3 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) For heaters F-101 and F-102A, upon issuance of Significant Permit Modification No. 089-25488-00453, the emissions shall not exceed the following emissions limits:

Heater ID	NO_X (lb/mmBTU)	CO (lb/mmBTU)	VOC (lb/mmBTU)	PM_{10} (lb/mmBTU)
F101	0.08	0.082	0.0054	0.0075
F-102A	0.08	0.082	0.0054	0.0075

(b) Pursuant to SSM 089-32033-00453, the Permittee shall comply with the following limits, following completion of the WRMP project:

Unit ID	Firing rate (10^3 mmBTU) per 12 consecutive month period	SO_2 tons per 12 consecutive month period	PM (lb/mmBTU)
F-101	595.68	3.3	0.0075
F-102A	394.20	2.2	0.0075

(c) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.20.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.20.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to Permit SPM 089-15202-00003, issued April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements in Section E.2 for the F-101 and F-102A process heaters.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, CRU Heaters F-101 and F-102A shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for Heaters F-101 and F-102A.

D.20.5 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the CRU.

(c) Pursuant to 40 CFR 60, Subpart GGG, the Permittee shall comply with the requirements in Sections E.4, and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at the CRU. Pursuant to 40 CFR 63.640(p),

equipment that is subject to both 40 CFR 60, Subpart GGG and 40 CFR 63, Subpart CC are required to comply only with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the CRU shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the CRU no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The CRU shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.20.6 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil-water separators, and closed-vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Prior to the completion of any modification to a potentially affected facility per 40 CFR 60, Subpart QQQ, the Permittee shall make a determination as to whether 40 CFR 60, Subpart QQQ has been triggered. If the Permittee determines that Subpart QQQ has been triggered, the Permittee shall comply with the requirements of that rule for individual drain systems, oil water separators, and closed vent systems and control devices upon implementation of the changes.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.20.7 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to SSM 089-15052-00453, issued November 17, 2003:

(a) Nitrogen Oxide emissions from Process Heater F-101 shall be controlled by low- NO_X burners having an emission rate of 0.080 pounds per million Btu heat input or less.

(b) Nitrogen Oxide emissions from Process Heater F-102A shall be controlled by low- NO_X burners having an emission rate of 0.080 pounds per million Btu heat input or less.

D.20.8 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions, which are routed to the UIU Flare and associated flare gas recovery system FGRS4. Requirements for the UIU Flare and FGRS4 are included in Section D.35.

Compliance Determination Requirements

D.20.9 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002, effective June 1, 2003, "fuel oil" shall not be used as fuel for the F-101 and F-102A Process Heaters.

D.20.10 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in F-101 and F-102A shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

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D.20.11 Compliance Determination Requirements

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.20.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

D.20.12 Performance Testing Requirements

Pursuant to SSM 089-32033-00453, the Permittee shall perform NO_X, PM, PM10, CO, and VOC testing of Heater F-101 and F-102A utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee's requirements with regards to the initial compliance demonstration for NO_X, PM, PM10, CO, and VOC testing of Heater F-101 and F-102A. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.20.13 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in Heaters F-101 and F-102A. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Condition D.20.3(b) and D.20.10, the Total Sulfur Continuous Analyzer for F-101 and F-102A shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limits for F-101 and F-102A in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements

D.20.14 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.20.15 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.20.2, and D.20.9, the Permittee shall maintain a daily record of the following for the F-101 and F-102A Process Heaters:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.20.4, the Permittee shall maintain the records as specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8, and to document the compliance status with Condition D.20.5(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.20.6, the Permittee shall keep records as specified in Sections E.1 and E.3.

(e) Pursuant to 40 CFR 60, Subpart GGG, 40 CFR 63, Subpart CC, and to document the compliance status with Condition D.20.5(b), the Permittee shall keep records as specified in Sections E.1, E.4, and E.13.

(f) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.20.1, the Permittee shall maintain records for the Process Heaters F-101 and F-102A, as specified in the Continuous Compliance Plan.

(g) In order to document the compliance status with Condition D.20.3, the Permittee shall maintain records of monthly firing rates and SO_2 emissions at F-101 and F-102A.

(h) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.20.13, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:

(A) design, installation, and testing of all elements of the monitoring system, and
(B) required corrective action or compliance plan activities.

(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
(A) Date of facility downtime,
(B) Time of commencement and completion of downtime, and
(C) Reason for each downtime.

(i) To document compliance with Condition D20.5(d), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(j) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (c), (f), (g) and (h) of this condition.

D.20.16 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.20.2 and D.20.9, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour, for the F-101 and F-102A Process Heaters.

(b) Pursuant to 40 CFR 60, Subpart J and Subpart Ja and to document the compliance status with Condition D.20.4, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.20.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 63, Subpart GGG and to document the compliance status with Condition D.20.5(b), the Permittee shall submit reports as specified in Sections E.1, E.4, and E.13.

(e) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.20.6, the Permittee shall submit reports as specified in Sections E.1 and E.3.

(f) In order to document the compliance status with Condition D.20.3, the Permittee shall submit a quarterly summary of the monthly firing rates and SO_2 emissions at heaters F-101 and F-102A not later than thirty (30) days after the end of the quarter being reported.

(g) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.20.3 and D.20.13, the Permittee shall submit reports of excess SO_2 emissions at heaters F-101 and F-102A not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block,

three (3) hour rolling, in addition to any other reporting requirements that may be applicable.

(5) A summary itemizing the exceedances by cause.

(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(A) Date of downtime.

(B) Time of commencement.

(C) Duration of each downtime.

(D) Reasons for each downtime.

(E) Nature of system repairs and adjustments

(h) To document compliance with Condition D.20.5(d), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(i) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (c), (f) and (g) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.21 FACILITY OPERATION CONDITIONS - Fluidized Catalytic Cracking Unit 500

Facility Description [326 IAC 2-7-5(14)]:

(u) The Fluidized Catalytic Cracking Unit (FCU) 500, constructed in 1945, identified as Unit ID 230 and rated at 115,000 barrels per day. This facility converts hydrocarbons that boil above 500°F into lower molecular weight products, which include gasoline and LPG. The cracking takes place as the gas oil and catalyst stream mix in the reactor. This process results in the catalyst being coated with coke, which is subsequently burned off in a regenerator. The FCU 500 includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) catalyst regenerator. Flue gas from the regenerator passes through an ammonia injection system, a waste heat recovery unit which generates steam, an Electrostatic Precipitator for particulate matter control, and is exhausted through stack S/V 230-01. The ammonia injection system includes aqueous ammonia injection and handling equipment. Aqueous ammonia is transferred from the FCU 600 SCR system's storage tanks.

(2) Three (3) catalyst storage bins, one each for spent, equilibrium, and fresh catalyst. Particulate emissions from the spent catalyst storage bin, identified as Bin F-52, are controlled by one (1) baghouse, which exhausts to stack S/V 230-03.

(3) FCU 500 is connected to the VRU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(4) Leaks from process equipment, including two (2) compressors (identified as J-3D and J-3G), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and an instrumentation and heat exchange systems.

(5) As part of the FCU 500 WARP, per SSM 089-25484-00453, the existing FCU 500 blowdown stack is being shutdown and the pressure relief discharges that were vented to the blowdown stack will be routed to a flare or flare gas recovery system.

(6) The FCU 500 turnaround (TAR) project, per SPM 089-25488-00453, for the repair or replacement of the power recovery turbine, and the air ring for the catalyst regenerator. The increases in emissions from FCU 500 TAR are already accounted for as WRMP project related contemporaneous emissions increases.

(7) Miscellaneous process vent emissions, which are routed to the VRU flare and associated flare gas recovery system FGRS3 (identified in Section D.35).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.21.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)), PM_{10} emissions from FCU 500 shall not exceed 1.22 pounds per thousand pounds of coke burned and 73.2 pounds per hour.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.21.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3 (formerly 326 IAC 7-4-1.1(c)), sulfur dioxide (SO_2) emissions from FCU 500 shall not exceed 750 pounds per hour.

D.21.3 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for FCU 500 after the completion of the WRMP project:

(a) The emissions of NO_X shall not exceed 278.7 tons per 12 consecutive month period, with compliance determined at the end of each month.

(b) The emissions of VOC shall not exceed 3.3 pounds per 1000 barrels of fresh feed used per 12 consecutive month period, with compliance determined at the end of each month.

(c) By December 31, 2012, the emissions of SO_2 shall not exceed 122 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The emissions of CO shall not exceed 179.5 tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The fresh feed used at FCU 500 shall not exceed 37.6 million barrels per 12 consecutive month period, with compliance determined at the end of each month.

(f) The coke burned at FCU 500 shall not exceed 669,191,000 pounds per 12 consecutive month period, with compliance determined at the end of each month.

(g) The FCU 500 blowdown stack shall be permanently shutdown and the pressure relief discharges that were routed to the blowdown stack will be routed to a flare or flare gas recovery system.

(h) Emission Limits for PM_{10} and PM_{TOTAL}

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of PM_{10} from FCU 500 shall not exceed 0.9 pound per 1,000 pounds of coke burned as determined by the EPA methods as specified in Condition D.21.13(b) - Test Methods for PM10 and PM_{TOTAL} Emissions.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of PM_{TOTAL} from FCU 500 shall not exceed 1.2 pounds per 1,000 pounds of coke burned as determined by the EPA methods as specified in Condition D.21.12(b) - Test Methods for PM10 and PM_{TOTAL} Emissions.

(i) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.21.4. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the FCU 500 throughput limits and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, CO, SO_2, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.21.4 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at .FCU 500.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the FCU 500 is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at FCU 500 no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) FCU 500 shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGGa at FCU 500 satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

D.21.5 Requirements for 40 CFR Part 63, Subpart UUU

Pursuant to 40 CFR 63, Subpart UUU, Fluidized Catalytic Cracking Unit 500 shall comply with the requirements specified in Section E.10.

D.21.6 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.21.7 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart Ja]

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the FCU 500 shall be an affected facility as that term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for NO_X, PM, and CO applicable to fluid catalytic cracking units. Entry of the Consent Decree in Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Civil No. 2:12-CV-00207 for FCU 500 shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirement of 40 CFR 60.8(a).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the FCU 500 shall be an affected facility as that term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 applicable to fluid catalytic cracking units. Entry of the Consent Decree in Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Civil No. 2:12-CV-00207 for FCU 500 shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirement of 40 CFR 60.8(a).

D.21.8 Alternative Opacity Requirements [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-3(a), when building a new fire in a boiler, or shutting down a boiler, opacity may exceed 20%; however, opacity levels shall not exceed 60% for any six (6) minute averaging period. Opacity in excess of 20% shall not continue for more than two (2) six (6) minute averaging periods in any twenty-four (24) hour period.

(b) Pursuant to 326 IAC 5-1-3(b), when moving ashes from the fuel bed or furnace in the FCU 500 boiler blowing tubes, opacity may exceed 20% in any one (1) six (6) minute averaging period. However, the opacity shall not exceed 60% for any six (6) minute averaging period and opacity in excess of 20% shall not continue for more than one (1) six (6) minute averaging period in a sixty (60) minute period. The averaging period shall not be permitted for more than three (3) six (6) minute averaging periods in a twelve (12) hour period.

D.21.9 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions, which are routed to the VRU Flare and associated flare gas recovery system FGRS3. Requirements for the VRU Flare and FGRS3 are included in Section D.35.

Compliance Determination Requirements

D.21.10 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of NO_X from FCU 500 shall not exceed 40 ppmvd @ 0% O2 based on a "365-day rolling average" and 80 ppmvd NO_X @ 0% based on a "7-day rolling average".

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than ninety (90) days after "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of NO_X from FCU 500 shall not exceed 80 ppmvd @ 0% O_2 based on a "7-day rolling average".

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than ninety (90) days after the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of NO_X from FCU 500 shall not exceed 35 ppmvd @ 0% O2 based on a "365-day rolling average".

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, NO_X emissions during periods of Startup, Shutdown, or Malfunction shall not be used in determining compliance with the "7-day rolling average" NO_X emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU 500, provided that during such periods the Permittee implements good air pollution control practices as required by 40 CFR 60.11(d) to minimize NO_X emissions at FCU 500.

As specified by the Consent Decree in Civil No. 2:12-CV-00207, NO_X emissions during periods of Startup, Shutdown, or Malfunction shall be used in determining compliance with the “365-day rolling average” NO_X emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU 500.

(e) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of SO_2 from FCU 500 shall not exceed 25 ppmvd @ 0% O2 based on a "365-day rolling average" and 50 ppmvd @ 0% O2 based on a "7-day rolling average".

(f) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2012 the emissions of SO_2 from FCU 500 shall not exceed 50 ppmvd @ 0% O2 based on a "7-day rolling average".

(g) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2012, the emissions of SO_2 from FCU 500 shall not exceed 10 ppmvd @ 0% O2 based on a "365-day rolling average".

(h) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, SO_2 emissions during periods of Startup, Shutdown, or Malfunction shall not be used in determining compliance with the "7-day rolling average" SO_2 emission limits at FCU 500, provided that during such periods the Permittee implements good air

pollution control practices as required by 40 CFR 60.11(d) to minimize SO_2 emissions at FCU 500.

As specified by the Consent Decree in Civil No. 2:12-CV-00207, SO_2 emissions during periods of Startup, Shutdown, or Malfunction shall be used in determining compliance with the "365-day rolling average" SO_2 emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU500.

(i) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of CO from FCU 500 shall not exceed 500 ppmvd on a 1-hour average basis corrected to 0% O2.

As required by the Consent Decree in Civil No. 2:12-CV-00207, CO emissions during periods of Startup, Shutdown or Malfunction shall not be used in determining compliance with the 1-hour 500 ppmv emission limit, provided that during such periods the Permittee implements good air pollution control practices to minimize CO emissions from FCU 500.

(j) FCU 500 VOC Emissions
Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of VOC from FCU 500 shall not exceed 3.3 pounds per 1000 barrels fresh feed.

D.21.11 Operating Requirements

(a) Pursuant to SPM 089-15202-00003, issued on April 24, 2002 and SPM 089-18588-00453, issued July 15, 2004, carbon monoxide (CO) emissions shall not exceed 500 parts per million by volume, on a dry basis, based on 1-hour averages. The CO limits shall not apply during periods of startup, shutdown, or malfunction.

(b) In order to demonstrate compliance with Condition D.21.3(g), after the completion of the WRMP project:

The pressure relief discharges that were routed to the FCU 500 blowdown stack shall be routed to a flare or flare gas recovery system. The flare must be operated with a flame present at all times that FCU 500 is in operation.

D.21.12 Compliance Determination Requirements

(a) Pursuant to SSM 089-32033-00453, in order to demonstrate compliance with Conditions D.21.3, the emissions of NO_X, SO_2 and CO shall be calculated as the sum of the quantity in tons of the pollutant for the most recent complete calendar month and the previous 11 calendar months. Each month shall be calculated as follows:

$$\text{Emissions (ton/mo)} = \sum^{n} [\{(C_A \times MW_{pollutant})/1{,}000{,}000\} \times \{(Qstack/V_m) \times (60\ min/hr) \times (1\ ton / 2{,}000\ lbs)\}]_i$$

Where:

n = Hours in the month
Qstack = Actual hourly average volumetric flow rate of flue gas from the FCCU stack, dscf/min; calculated from process data or measured by stack flow meter (at 68 °F)
C_A = Actual hourly average pollutant concentration (ppmv) dry basis;
V_m = 385.3 dscf of gas per lb-mol at standard conditions (68 °F)

Where the calculated Qstack = Qr + Qesp

Where:

Qr = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams, dscf/min; (at 68 °F)
Qesp = Volumetric flow rate of penthouse purge air to ESP, dscf/min; (at °F)

$$Q_r = [79 \times Q_{air} + (100-\%O_{xy}) \times Q_{oxy}] / [100 - \%CO_2 - \%CO - \%O_2]$$

Where:

79 = Default concentration of nitrogen and argon in dry air, percent by volume (dry basis);
Qair = Volumetric flow rate of dry air to regenerator, dscf/min; (at 68 °F)
%Oxy = Oxygen concentration in oxygen-enriched stream, percent by volume (dry basis);
Qoxy = Volumetric flow rate of oxygen-enriched air stream to regenerator, dscf/min; (at 68 °F)
%CO2 = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);
%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);
%O2 = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);

(b) Pursuant to SSM 089-32033-0045, in order to demonstrate compliance with Condition D.21.3, the coke burned shall be calculated as the sum of the quantity in lbs of coke burned for the most recent complete calendar month and the previous 11 calendar months. Each month shall be calculated as follows:

$$R_{c(month)} \text{ (lbs/month)} = \sum^{n} [K_1 Q_r \times (\%CO_2 + \%CO) + K_2 Q_a - K_3 Q_r \times [(\%CO/2) + \%CO_2 + \%O_2] + K_3 Q_{oxy} \times (\%O_{xy})]_i$$

Where:

n = Hours in the month
$R_{c(month)}$ = Coke burned, (lbs/month);
Q_r = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams boiler, dscm/min (dscf/min); (at 68 °F)
Q_a = Volumetric flow rate of air to catalytic cracking unit catalyst regenerator, as determined from instruments in the catalytic cracking unit control room, dscf/min; (at 68 °F)
$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);
%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);
$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);
K_1 = Material balance and conversion factor, 0.0186 (lb-min)/(hr-dscf-%));
K_2 = Material balance and conversion factor, (0.1303 (lb-min)/(hr-dscf));
K_3 = Material balance and conversion factor,(0.0062 (lb-min)/(hr-dscf-%));
Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from instruments in the catalytic cracking unit control room,(dscf/min); and
$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis)

(c) Demonstrating Compliance with FCU VOC Emission Limits

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, emissions of VOC from FCU 500 to demonstrate compliance with Condition D.21.10 - FCU 500 VOC Emissions shall be calculated as follows:

$$E = \left(\frac{C \times Q \times MW \times 60}{V_m} \right) \times \left(\frac{1000}{F} \right)$$

$$C = C_{total} - C_{methane} - C_{ethane}$$

Where:

E = FCU VOC Emissions in lb/ 1000 bbl feed
C = concentration of non-methane and non-ethane organic carbon as carbon in volume fraction
Ctotal = concentration of total organic carbon in volume fraction, as carbon, as measured by EPA Method 25a
Cmethane = concentration of methane in volume fraction, as carbon, as measured by EPA Method 18
Cethane = concentration of ethane in volume fraction, as carbon, as measured by EPA Method 18
MW = molecular weight of carbon = 12.01 lb/lb-mole
Q = FCCU stack flow in dry standard cubic feet per minute as measured by EPA Method (s) 1-4
1000 = conversion factor to put emissions on a per 1000 bbl feed
Vm = 385.3 dscf of gas per lb-mol at standard conditions (68 °F)
F = FCU feed rate in bbl/hour, averaged over period of source test
60 = conversion factor for 60 minutes per hour

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall:

(1) No later than 180 Days after the “Date of Entry” of the Consent Decree entered in Civil No. 2:12-CV-00207, and on a semi-annual basis thereafter, the Permittee shall conduct a performance test on FCU 500 pursuant to 40 .F.R. §§ 60.8 and 60.104a. Upon demonstrating through at least four (4) semi-annual tests that the PM limit in 40 C.F.R. § 60.102a(b)(1) is not being exceeded, the Permittee may reduce the required testing frequency to an annual basis. The Permittee shall provide notice to EPA no later than 30 Days in advance of the performance testing to be conducted pursuant to this paragraph, and shall provide the results of such testing upon request by EPA.

(2) In addition to the performance testing required by this paragraph, the Permittee may conduct testing to identify any parameters that may need to be maintained to assure compliance with the PM limits during testing. The Permittee shall provide EPA with notice no later than 30 Days in advance of testing to identify parameters pursuant to this paragraph, and shall provide the results of such testing upon request by EPA.

(e) Demonstrating Compliance with PM_{10} and PM_{TOTAL} Emission Limits [20]

(1) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, compliance with the PM_{10} and PM_{TOTAL} emission limits in Condition D 21.3 - Emission Limits for PM_{10} and PM_{TOTAL} shall be based on the emission rate computed from the most recent performance test completed pursuant to Condition D.21 - FCU Performance Testing Requirements.

(2) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall maintain compliance with the PM operating limits established under 40 C.F.R. § 60.102a(c)(1) during its demonstration of compliance with the PM_{10} and PM_{TOTAL} emission limits in Condition D.21.3 - Emission Limits for PM_{10} and PM_{TOTAL}.

(3) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207 , for the purposes of this paragraph, the Permittee may use Method 201A in lieu of Method 5 to determine PM_{TOTAL} emissions, provided that the Pemittee follows the procedures in Method 201A for the collection and analysis of PM greater than 10 microns.

D.21.13 FCU PM_{10} and PM_{TOTAL} Performance Testing Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than 180 days after the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall implement a performance testing protocol in accordance with (a) through (e) as provided as follows:

Testing Frequency

(a) The Permittee shall conduct performance tests to measure emissions of PM_{10} and PM_{TOTAL} from FCU 500 on at least a semi-annual basis, with each semi-annual performance test being no sooner than four (4) calendar months from the date of completion of the previous semi-annual test. This shall not preclude the Permittee from conducting additional performance tests which are more frequent.

(1) Upon demonstrating, through at least four (4) valid, consecutive semi-annual tests conducted after December 31, 2013 that (i) the PM_{10} and PM_{TOTAL} limits (Condition D 21.3 - Emission Limits for PM_{10} and PM_{TOTAL}) are not being exceeded, (ii) the average of all four valid semi-annual tests is not more than 80% of the PM_{10} and PM_{TOTAL} limits and (iii) the average result from any valid semi-annual test is not greater than 90% of the PM_{10} and PM_{TOTAL} limits, the Permittee may reduce the frequency of performance testing to an annual basis.

(2) The Permittee may request EPA approval to reduce the frequency of such testing in other circumstances. EPA has sole discretion to approve or disapprove the Permittee's request, which shall not be subject to Dispute Resolution. In the event that a subsequent annual test indicates an exceedance of a PM_{10} or PM_{TOTAL} limit, EPA may elect to reinstate the requirement for semi-annual testing. EPA's decision to reinstate semi-annual testing shall not be subject to Dispute Resolution.

Test Methods for PM_{10} and PM_{TOTAL} Emissions

(b) The Permittee shall measure PM_{10} emissions using using EPA Methods 201A and 202. The Permittee may use EPA Method 5 in lieu of EPA Method 201A for purposes of demonstrating compliance with the PM_{10} emission limit (Condition D.21.3 - Emission Limits for PM_{10} and PM_{TOTAL}) provided that all PM measured by EPA Method 5 is considered as PM_{10}.

The Permittee shall measure PM_{TOTAL} emissions using EPA Methods 5 and 202. The Permittee may use EPA Method 201A in lieu of EPA Method 5 for purposes of demonstrating compliance with the PM_{TOTAL} emission limit provided that the Permittee also follows the procedures in EPA Method 201A for the collection and analysis of PM greater than 10 microns.

Test Run Duration

(c) Each performance test shall be comprised of at least three (3) valid two-hour stack test runs. The Permittee shall discard any invalid test runs, such as those that are compromised because of sample contamination. If a test run is discarded, it shall be replaced with an additional valid test run. The Permittee shall report the results of the discarded test runs and shall provide all information necessary to document why the test run was not valid.

Valid Performance Tests

(d) A PM_{10} and PM_{TOTAL} test shall not be considered a valid test, and the Permittee will not have met the requirement of this condition to test, unless each of the following conditions is met:

(1) The average FCU 500 coke burn rate for all runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be less than actual average FCU 500 coke burn rate over the time period since the previous performance test;

(2) The average SO_2 concentration for all runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be greater than 10 ppmvd @ 0% O_2; and

(3) The average total ammonia injection rate for all runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be less than average total ammonia injection rate over the time period since the previous performance test.

(4) Throughout the performance test, the Permittee shall target the average ESP total primary power since the last stack test. The average ESP total primary power for all the runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be greater than 120% of the average ESP total primary power since the last stack test.

Additional Parametric Monitoring During the Tests

(e) The Permittee shall monitor or calculate and record SO_2 concentration, NO_X concentration, catalyst additive rates, ammonia addition prior to ESP, ammonia slip, the FCU 500 coke burn-off rate, regenerator overhead temperatures, and FCU 500 feed rate for each test run. The Permittee shall reduce this monitoring data to an average that matches the time period of each test run.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.21.14 FCU VOC Performance Testing Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, and in order to demonstrate compliance with the emission limit in D.21.10 - FCU 500 VOC Emissions, by no later than December 31, 2013, and annually thereafter, the Permittee shall

conduct performance tests to measure emissions of VOC from FCU 500, except as provided as follows:

(a) If a stack test for FCU 500 demonstrates that VOC emissions from FCU 500 are less than half of the applicable VOC emissions limit in Condition D.21.10 - FCU 500 VOC Emissions, the Permittee may thereafter elect to conduct stack tests at least once every three (3) years at FCU 500 in lieu of annual stack testing.

(b) If, after the Permittee exercises the option to conduct stack testing at least once every three (3) years pursuant to this paragraph, and a stack test thereafter demonstrates an exceedance of the applicable VOC emissions limit in Condition D.21.10 - FCU 500 VOC Emissions, the Permittee shall resume annual stack testing for FCU 500.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.21.15 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall use NO_X, SO_2, CO and O_2 CEMS to demonstrate compliance with the NO_X, SO_2 and CO limits in Condition D.21.10. The Permittee shall install, certify, calibrate, maintain and operate the NO_X, SO_2, CO, and O_2 CEMS for FCU 500 in accordance with the provisions of 40 CFR 60.13 that are applicable to CEMS (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B. The Permittee must conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed.

(b) The NO_X, CO, SO_2, and O_2 continuous emission monitoring systems (CEMS) for FCU 500 shall be calibrated, maintained, and operated for determining compliance with NO_X, CO, and SO_2 emissions limits for FCU 500 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment.

Compliance Monitoring Requirements

D.21.16 Inspection and Monitoring Requirements for the Electrostatic Precipitator [326 IAC 6.8-8-7]

Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(r)(2)), the Permittee shall maintain a Continuous Compliance Plan (CCP) for the ESP. The CCP shall include recording, inspection, and maintenance procedures in accordance with the requirements provided in 326 IAC 6.8-8-7(2)(A) and (B) (formerly 326 IAC 6-1-10.1(r)(2)(A) and (B)), including operating parameters to be monitored and the inspection and maintenance schedule to be followed. The Permittee shall inspect the ESP according to the schedule and procedures specified in the CCP. Pursuant to 326 IAC 2-7-5(1)(B)(ii), the inspection schedule records shall be available for inspection by IDEM, OAQ for up to five (5) years after the date of inspection.

D.21.17 Continuous Monitoring [326 IAC 3-5-1(e)] [326 IAC 6.8-8]

(a) Pursuant to SPM 089-15202-00003, issued on April 24, 2002, SPM 089-18588-00453, issued July 15, 2004, and to demonstrate compliance with Conditions D.21.2 and D.21.11, continuous monitoring systems shall be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 CFR 60.13 and the CCP, and operated at all times when FCU 500 is in operation to monitor and record the following for the FCU 500 flue gas:

(1) The Permittee shall monitor and record the hourly average CO concentration, on a dry basis. Process analyzers, calibrated in accordance with the manufacturer's recommendations, may be used for this purpose.

(2) The Permittee shall use a NO_X CEMS to monitor performance of the FCU 500 during the life of the Consent Decree 2:96 CV 095 RL and to report compliance with the terms and conditions of the Consent Decree.

(3) The Permittee shall use an SO_2 CEMS to monitor performance of the FCU 500 and to report compliance with the terms and conditions of the Consent Decree 2:96 CV 095 RL.

(b) Pursuant to 326 IAC 3-5 and 326 IAC 6.8-8-5(2) (formerly 326 IAC 6-1-10.1(p)(2)), the Permittee shall continuously monitor the opacity of exhaust gases from the catalyst regenerator stack at all times when the catalyst regenerator is in operation. The Permittee shall comply with the performance and operating specifications in 326 IAC 3-5-2, the certification process in 326 IAC 3-5-3, the operation procedures in 326 IAC 3-5-4, and the quality assurance requirements in 326 IAC 3-5-5 for the continuous opacity monitor.

(c) Pursuant to 326 IAC 6.8-8-5(2) (formerly 326 IAC 6-1-10.1(p)(2)), the Permittee shall continuously monitor coke burn off rate, in pounds per hour, as specified in the Continuous Compliance Plan (CCP).

D.21.18 Supplemental FCU PM Monitoring Requirements [19]

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall monitor and record the daily values for the following operating parameters:

(a) The feed rate, in barrels per day, for FCU 500;

(b) The average rate, in pounds per hour, at which SO_2-reducing catalyst additive is added to FCU 500; and

(c) The average amount of ammonia in pounds per hour injected into the FCU 500 ESP.

D.21.19 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

D.21.20 Compliance Assurance Monitoring (CAM) [40 CFR Part 64]

Pursuant to 40 CFR Part 64, the Permittee shall comply with the following Compliance Assurance Monitoring requirements for the electrostatic precipitator controlling FCU 500:

Monitoring Approach for PM_{10} and PM_{Total} Emissions From FCU 500			
Parameter	**Indicator No. 1**	**Indicator No. 2**	**Indicator No. 3**
I. Indicator	Proper Operation of Electrostatic Precipitator (ESP)	Particulate loading at the Electrostatic Precipitator (ESP) inlet	Inspection and Maintenance
Measurement Approach	Average ESP total primary power and secondary current.	Average exhaust coke burn-off rate	Inspections and Maintenance of the ESP

Monitoring Approach for PM_{10} and PM_{Total} Emissions From FCU 500			
Parameter	**Indicator No. 1**	**Indicator No. 2**	**Indicator No. 3**
II. Indicator Range	An excursion is defined as a 3-hour rolling average ESP total primary power or secondary current falling below the level established in the most recent performance test conducted pursuant to 40 CFR §60.104a.	An excursion is defined as a daily average exhaust coke burn-off rate exceeding the level established during the during the most recent performance test conducted pursuant to 40 CFR §60.104a.	An excursion is defined as not following the inspection schedule and procedures specified in the Continuous Compliance Plan (CCP).
III. Performance Criteria	--	--	--
A. Data Representativeness	Continuous Parameter Monitoring System (CPMS) requirements in 40 CFR 60.105a(b)(1)(i) and (iii).	Continuous Parameter Monitoring System (CPMS) requirements in 40 CFR 60.105a(b)(1)(iii) and (iv).	Recording, inspection, and maintenance procedures as prescribed in Condition D.21.17.
B. Verification of Operational Status	Data being reported to DCS on a continuous basis.	Data being reported to DCS on a continuous basis.	Records kept as prescribed in Condition D.21.17.
C. QA/QC Practices and Criteria	Periodic inspection and maintenance of the ESP and monitoring systems per CCP.	N/A	Update the CCP as needed.
D. Monitoring Frequency	Measure and record hourly average ESP total primary power and secondary voltage to the entire system per 40 CFR 105a(b)(1)(i).	Determine and record the average coke burn-off rate and hours of operation for FCU 500 per 40 CFR 105a(b)(1)(iv).	As prescribed in the CCP which meets the requirements of 326 IAC 6.8-8-7.
IV. Data Collection Procedure	Continuous Parameter Monitoring System meeting the requirements of 40 CFR 60.105a(b)(1)(i) and (iii).	Continuous Parameter Monitoring System meeting the requirements of 40 CFR 60.105a(b)(1)(iii) and (iv).	Per the methods prescribed in the CCP which meets the requirements of 326 IAC 6.8-8-7.
Averaging Period	3-hour average rolled hourly.	Daily average	N/A

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.21.21 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(B) and to document the compliance status with Condition D.21.2, the Permittee shall maintain daily records of the following:

(1) calculated coke burn off rate for FCU 500, and

(2) sulfur content of the coke.

(b) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Conditions D.21.3, D.21.8, D.21.15, D.21.17, and D.21.20, the Permittee shall keep the following records for the continuous opacity monitor and continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.21.4(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.21.4(b), the Permittee shall keep records as specified in Section E.1 and E.4.

(e) Pursuant to SPM 089-15202-00003, issued on April 24, 2002, and SPM 089-18588-00453, issued July 15, 2004, and to document the compliance status with Condition D.21.11, the Permittee shall maintain records of 1-hour average CO emissions.

(f) Pursuant to 326 IAC 6.8-8-3 and 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5), (q)(1), and (r)(2)) and to document the compliance status with Condition D.21.1, the Permittee shall maintain records for the FCU and ESP as specified in the Continuous Compliance Plan.

(g) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.21.6(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(h) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.21.6(b), the Permittee shall keep records as specified in Section E.6.

(i) Pursuant to 40 CFR 63, Subpart UUU and to document document the compliance status with Condition D.21.5, the Permittee shall keep records as specified in Section E.10.

(j) In order to document the compliance status with Condition D.21.3, the Permittee shall maintain records of fresh feed usage at FCU 500 and the coke burned at FCU 500 each month.

(k) In order to document the compliance status with Condition D.21.3, the Permittee shall maintain records of monthly emissions of SO_2, NO_X, and CO from FCU 500.

(l) To document compliance with Condition D.21.4(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(m) To document compliance with Condition D.21.7, the Permittee shall keep records pursuant to 40 CFR 60, Subpart Ja, as specified in Section E.18.

(n) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (c), (e), (f), (j) and (k) of this condition.

D.21.22 Reporting Requirements

(a) Pursuant to 326 IAC IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.21.2, the Permittee shall submit a report containing the average daily sulfur dioxide emission rate, in pounds per hour, for FCU 500 not later than thirty (30) days after the end of each calendar quarter.

(b) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.21.8 and D.21.17, the Permittee shall submit reports of excess opacity emissions not later than thirty (30) days of the end each of quarter in which excess emissions occur. Pursuant to 321 IAC 3-5-7, the reports shall include:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. The actual opacity of each averaging period for each period in excess of the opacity limit. If the exceedance occurs continuously beyond one (1) six (6) minute period, the Permittee shall report either the percent opacity for each six (6) minute period or the highest six (6) minute average opacity for the entire period.
(5) A summary itemizing the exceedances by cause.

(c) Pursuant to 326 IAC 3-5-4(a), if revisions are made to the standard operating procedures (SOP) submitted to OAQ for the continuous opacity monitor, updates shall be submitted biennially.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.21.4(a), the Permittee shall submit reports as specified in the LDAR plan.

(e) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.21.4(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(f) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.21.5, the Permittee shall submit to IDEM, OAQ the reports specified in Section E.10.

(g) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.21.6(a), the Permittee shall subject reports as specified in Section E.1 and E.3.

(h) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.21.6(b), the Permittee shall submit reports as specified in Section E.6.

(i) In order to document the compliance status with Condition D.21.3, the Permittee shall submit quarterly reports for the fresh feed used and coke burned at FCU 500 not later than thirty (30) days of the end of each quarter.

(j) In order to document the compliance status with Condition D.21.3, the Permittee shall submit quarterly reports of monthly emissions of SO_2, NO_X, and CO from FCU 500 not later than thirty (30) days of the end of each quarter.

(k) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.21.3 and D.21.17, the Permittee shall submit reports of excess SO_2, NO_X, and CO emissions at FCU 500 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
(A) Date of downtime.
(B) Time of commencement.
(C) Duration of each downtime.
(D) Reasons for each downtime.
(E) Nature of system repairs and adjustments

(l) To document compliance with Condition D.21.4(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(m) To document compliance with Condition D.21.7, the Permittee shall submit reports pursuant to 40 CFR 60, Subpart Ja, as specified in Section E.18.

(n) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (b), (c), (d), (i), (j) and (k) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.22 FACILITY OPERATION CONDITIONS - Fluidized Catalytic Cracking Unit 600

Facility Description [326 IAC 2-7-5(14)]:

(v) The Fluidized Catalytic Cracking Unit (FCU) 600, constructed in 1946, identified as Unit ID 240 and rated at 80,000 barrels per day. This facility converts hydrocarbons that boil above 500 ^{o}F into lower molecular weight products, which include gasoline and LPG. The cracking takes place as the gas oil and catalyst stream mix in the reactor. This process results in the catalyst being coated with coke, which is subsequently burned off in a regenerator. The FCU 600 includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) catalyst regenerator. Flue gas from the regenerator passes through a waste heat recovery unit, which generates steam and an Electrostatic Precipitator for particulate matter control. The flue gas is then directed to a selective catalytic reduction (SCR) system, which chemically reduces nitrogen oxide emissions by reaction with injected ammonia, and is exhausted through stack S/V 240-01.

(2) Two catalyst storage bins, one each for equilibrium and fresh catalyst. (Spent catalyst is stored in Bin F-52, which is associated with FCU 500.)

(3) FCU 600 is connected to the FCU Flare and associated flare gas recovery system FGRS3 (identified in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

(4) Leaks from process equipment, including two (2) wet gas compressors (identified as J-3Dand J-3E), pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and an instrumentation and heat exchange systems.

(5) As part of the FCU 600 WARP, per SSM 089-25484-00453 the existing FCU 600 blowdown stack is being shutdown and the pressure relief discharges that were vented to the blowdown stack are being re-routed to a flare or flare gas recovery system.

(6) The FCU 600 turnaround (TAR) project, per SPM 089-25488-00453, for the repair or replacement of the main fractionator overhead condensers, the slurry and pump around system, unit pump replacement, FCU flare tip replacement, and additional controls to reduce plugging on the SCR. The increases in emissions from FCU 600 TAR are already accounted for as WRMP project related contemporaneous emissions increases.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.22.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)), PM_{10} emissions from FCU 600 shall not exceed 1.10 pounds per thousand pounds of coke burned and 55.0 pounds per hour.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any

changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.22.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide (SO_2) emissions from FCU 600 shall not exceed 437.50 pounds per hour.

D.22.3 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for FCU 600:

After the completion of the WRMP project, the Permittee shall comply with the following:

(a) The emissions of NO_X shall not exceed 90.0 tons per 12 consecutive month period, with compliance determined at the end of each month.

(b) The emissions of VOC shall not exceed 3.3 pounds per 1000 barrels of fresh feed used per 12 consecutive month period, with compliance determined at the end of each month.

(c) By September 1, 2013, the emissions of SO_2 shall not exceed 78 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The emissions of CO shall not exceed 112.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The fresh feed used at FCU 600 shall not exceed 24.09 million barrels per 12 consecutive month period, with compliance determined at the end of each month.

(f) The coke burned at FCU 600 shall not exceed 428,802,000 pounds per 12 consecutive month period, with compliance determined at the end of each month.

(g) The FCU 600 blowdown stack shall be permanently shutdown and the pressure relief discharges that were routed to the blowdown stack will be routed to a flare or flare gas recovery system.

(h) Emission Limits for PM_{10} and PM_{TOTAL}

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of PM_{10} from FCU 600 shall not exceed 0.7 pound per 1,000 pounds of coke burned as determined by the EPA methods as specified in Condition D.22.12(b) - Test Methods for PM_{10} and PM_{TOTAL} Emissions.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of PM_{TOTAL} from FCU 600 shall not exceed 1.2 pounds per 1,000 pounds of coke burned as determined by the EPA methods as specified in Condition D.22.12(b) - Test Methods for PM_{10} and PM_{TOTAL} Emissions.

(i) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from

pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.22.4. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the FCU 600 throughput limits and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.22.4 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at FCU 600.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207 , the FCU 600 is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at FCU 600 no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) FCU 600 shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.22.5 Requirements for 40 CFR Part 63, Subpart UUU

Pursuant to 40 CFR 63, Subpart UUU, the Fluidized Catalytic Cracking Unit 600 and associated bypass lines shall comply with the requirements of Section E.10.

D.22.6 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain

systems, oil-water separators, and closed-vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Prior to the completion of any modification to a potentially affected facility per 40 CFR 60, Subpart QQQ, the Permittee shall make a determination as to whether 40 CFR 60, Subpart QQQ has been triggered. If the Permittee determines that Subpart QQQ has been triggered, the Permittee shall comply with the requirements of that rule for individual drain systems, oil water separators, and closed vent systems and control devices upon implementation of the changes.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

Compliance Determination Requirements

D.22.7 Operating Requirements

Pursuant to SPM 089-15202-00003, issued on April 24, 2002 and SPM 089-18588-00453, issued July 15, 2004:

(a) The Permittee shall use a selective catalytic reduction (SCR) system to reduce Nitrogen Oxide (NO_X) emissions.

(b) The carbon monoxide (CO) emissions shall not exceed 500 parts per million by volume, on a dry basis, based on 1-hour averages. The CO limit shall not apply during periods of startup, shutdown, and malfunction.

(c) In order to demonstrate compliance with Condition D.22.3(g), after the completion of the WRMP project:

The pressure relief discharges that were routed to the FCU 600 blowdown stack shall be routed to a flare or flare gas recovery system. The flare must be operated with a flame present at all times that FCU 600 is in operation.

D.22.8 Alternative Opacity Requirements [326 IAC 5-1-3]

(a) Pursuant to 326 IAC 5-1-3(a), when building a new fire in a boiler, or shutting down a boiler, opacity may exceed 20%; however, opacity levels shall not exceed 60% for any six (6) minute averaging period. Opacity in excess of 20% shall not continue for more than two (2) six (6) minute averaging periods in any twenty-four (24) hour period.

(b) Pursuant to 326 IAC 5-1-3(b), when moving ashes from the fuel bed or furnace in the FCU 500 boiler blowing tubes, opacity may exceed 20% in any one (1) six (6) minute averaging period. However, the opacity shall not exceed 60% for any six (6) minute averaging period and opacity in excess of 20% shall not continue for more than one (1) six (6) minute averaging period in a sixty (60) minute period. The averaging period shall not be permitted for more than three (3) six (6) minute averaging periods in a twelve (12) hour period.

D.22.9 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart Ja]

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the FCU 600 shall be an affected facility as that term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for NOx, PM, and CO

applicable to fluid catalytic cracking units. Entry of the Consent Decree in Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Civil No. 2:12-CV-00207 for FCU 600 shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirement of 40 CFR 60.8(a).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than September 1, 2013, the FCU 600 shall be an affected facility for SO_2 as that term is used in 40 CFR 60, Subparts A and Ja. By no later than September 1, 2013, FCU 600 shall be subject to and comply with the requirements of 40 CFR 60, Subparts A and Ja, for SO_2 applicable to FCCUs. Entry of the Consent Decree in Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Civil No. 2:12-CV-00207 for FCU 600 shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirement of 40 CFR 60.8(a).

D.22.10 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of NO_X from FCU 600 shall not exceed 20 ppmvd @ 0% O2 based on a "365-day rolling average" and 40 ppmvd @ 0% O2 based on "7-day rolling average".

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than ninety (90) days after the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of NO_X from FCU 600 shall not exceed 40 ppmvd @ 0% O2 based on a "7-day rolling average".

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than ninety (90) days after the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of NO_X from FCU 600 shall not exceed 10 ppmvd @ 0% O2 based on a "365-day rolling average".

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, NO_X emissions during periods of Startup, Shutdown, or Malfunction shall not be used in determining compliance with the "7-day rolling average" NO_X emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU 600, provided that during such periods the Permitee implements good air pollution control practices as required by 40 CFR 60.11(d) to minimize NO_X emissions at FCU 600.

As specified by the Consent Decree in Civil No. 2:12-CV-00207, NO_X emissions during periods of Startup, Shutdown, or Malfunction shall be used in determining compliance with the “365-day rolling average” NO_X emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU 600.

(e) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of SO_2 from FCU 600 shall not exceed 50 ppmvd @ 0% O2 based on a "365-day rolling average" and 125 ppmvd @ 0% O2 based on a "7-day rolling average".

(f) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than September 1, 2013, pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, the emissions of SO_2 from FCU 600 shall not exceed 10 ppmvd @ 0% O2 based on a "365-day rolling average".

(g) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than September 1, 2013, pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207, the emissions of SO_2 from FCU 600 shall not exceed 50 ppmvd @ 0% O2 based on a "7-day rolling average".

(h) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree in Civil No. 2:12-CV-00207, SO_2 emissions during periods of Startup, Shutdown, or Malfunction shall not be used in determining compliance with the "7-day rolling average" SO_2 emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU 600, provided that during such periods the Permitee implements good air pollution control practices as required by 40 CFR 60.11(d) to minimize SO_2 emissions at FCU 600.

As specified by the Consent Decree in Civil No. 2:12-CV-00207, SO_2 emissions during periods of Startup, Shutdown, or Malfunction shall be used in determining compliance with the “365-day rolling average” SO_2 emission limits required by the Consent Decree in Civil No. 2:12-CV-00207 at FCU 600.

(i) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the emissions of CO from FCU 600 shall not exceed 500 ppmvd on a 1-hour average basis corrected to 0% O2.

As required by the Consent Decree in Civil No. 2:12-CV-00207, CO emissions during periods of Startup, Shutdown or Malfunction shall not be used in determining compliance with the 1-hour 500 ppmv emission limit, provided that during such periods the Permittee implements good air pollution control practices to minimize CO emissions at FCU 600.

(j) FCU 600 VOC Emissions
Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than December 31, 2013, the emissions of VOC from FCU 600 shall not exceed 3.3 pounds per 1000 barrels fresh feed.

D.22.11 Compliance Determination Requirements

(a) Pursuant to SSM 089-32033-00453, in order to demonstrate compliance with Conditions D.22.3 (a), (c) and (f), the emissions of NO_X, SO_2 and CO shall be calculated as the sum of the quantity in tons of the pollutant for the most recent complete calendar month and the previous 11 calendar months. Each month shall be calculated as follows:

$$\text{Emissions (ton/mo)} = \sum^{n} [\{(C_A \times MW_{pollutant})/1{,}000{,}000\} \times \{(Q_{stack}/V_m) \times (60 \text{ min/hr}) \times (1 \text{ ton} / 2{,}000 \text{ lbs})\}]_i$$

Where:

n = Hours in the month
Qstack = Actual hourly volumetric flow rate of flue gas from the FCCU stack, dscf/min; calculated from process data or measured by stack flow meter (at 68 °F)
C_A = Actual hourly average pollutant concentration (ppmv) dry basis;
V_m = 385.3 dscf of gas per lb-mol at standard conditions (68 °F)

Where the calculated Qstack = Qr + Qesp + Qscr

Where:

Qr = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams, dscf/min; (at 68 °F)
Qesp = Volumetric flow rate of penthouse purge air to ESP, dscf/min; (at 68 °F)

Qscr = Volumetric flow rate of ammonia dilution air to SCR, dscf/min (at 68 °F)

$$Q_r = [79 \times Q_{air} + (100-\%O_{xy}) \times Q_{oxy}] / [100 - \%CO_2 - \%CO - \%O_2]$$

Where:

79 = Default concentration of nitrogen and argon in dry air, percent by volume (dry basis);
Qair = Volumetric flow rate of dry air to regenerator, dscf/min; (at 68 °F)
%Oxy = Oxygen concentration in oxygen-enriched stream, percent by volume (dry basis);
Qoxy = Volumetric flow rate of oxygen-enriched air stream to regenerator, dscf/min; (at 68 °F)
%CO2 = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);
%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);
%O2 = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);

(b) Pursuant to SSM 089-32033-00453, in order to demonstrate compliance with Condition D.22.3 (h), the coke burned shall be calculated as the sum of the quantity in lbs of coke burned for the most recent complete calendar month and the previous 11 calendar months. Each month shall be calculated as follows:

$$R_{c(month)} \text{ (lbs/month)} = \sum^{n}[K_1Q_r \times (\%CO_2 + \%CO) + K_2Q_a - K_3Q_r \times [(\%CO/2) + \%CO_2 + \%O_2] + K_3Q_{oxy} \times (\%O_{xy})]_i$$

Where:

n = Hours in the month
$R_{c(month)}$= Coke burned, (lbs/month);
Q_r = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams boiler, dscm/min (dscf/min); (at 68 °F)
Q_a = Volumetric flow rate of air to catalytic cracking unit catalyst regenerator, as determined from instruments in the catalytic cracking unit control room, dscf/min; (at 68 °F)
$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);
%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);
$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);
K_1 = Material balance and conversion factor, 0.0186 (lb-min)/(hr-dscf-%));
K_2 = Material balance and conversion factor, (0.1303 (lb-min)/(hr-dscf));
K_3 = Material balance and conversion factor,(0.0062 (lb-min)/(hr-dscf-%));
Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from instruments in the catalytic cracking unit control room,(dscf/min); and
$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis)

(c) Demonstrating Compliance with FCU VOC Emission Limits

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, emissions of VOC from FCU 600 to demonstrate compliance with Condition D.22.10 - FCU 600 VOC Emissions shall be calculated as follows:

$$E = \left(\frac{C \times Q \times MW \times 60}{V_m} \right) \times \left(\frac{1000}{F} \right)$$

$$C = C_{total} - C_{methane} - C_{ethane}$$

Where:

E =	FCU VOC Emissions in lb/ 1000 bbl feed
C =	concentration of non-methane and non-ethane organic carbon as carbon in volume fraction
Ctotal =	concentration of total organic carbon in volume fraction, as carbon, as measured by EPA Method 25a
Cmethane =	concentration of methane in volume fraction, as carbon, as measured by EPA Method 18
Cethane =	concentration of ethane in volume fraction, as carbon, as measured by EPA Method 18
MW =	molecular weight of carbon = 12.01 lb/lb-mole
Q =	FCCU stack flow in dry standard cubic feet per minute as measured by EPA Method (s) 1-4
1000 =	conversion factor to put emissions on a per 1000 bbl feed
Vm =	385.3 dscf of gas per lb-mol at standard conditions (68 °F)
F =	FCU feed rate in bbl/hour, averaged over period of source test
60 =	conversion factor for 60 minutes per hour

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall:

(1) No later than 180 Days after the “Date of Entry” of the Consent Decree entered in Civil No. 2:12-CV-00207, and on a semi-annual basis thereafter, the Permittee shall conduct a performance test on FCU 600 pursuant to 40 .F.R. §§ 60.8 and 60.104a. Upon demonstrating through at least four (4) semi-annual tests that the PM limit in 40 C.F.R. § 60.102a(b)(1) is not being exceeded, the Permittee may reduce the required testing frequency to an annual basis. The Permittee shall provide notice to EPA no later than 30 Days in advance of the performance testing to be conducted pursuant to this paragraph, and shall provide the results of such testing upon request by EPA.

(2) In addition to the performance testing required by this paragraph, the Permittee may conduct testing to identify any parameters that may need to be maintained to assure compliance with the PM limits during testing. The Permittee shall provide EPA with notice no later than 30 Days in advance of testing to identify parameters pursuant to this paragraph, and shall provide the results of such testing upon request by EPA.

(e) Demonstrating Compliance with PM_{10} and PM_{TOTAL} Emission Limits

(1) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, compliance with the PM_{10} and PM_{TOTAL} emission limits in Condition D 22.3 - Emission Limits for PM_{10} and PM_{TOTAL} shall be based on the

emission rate computed from the most recent performance test completed pursuant to Condition D.22.12 - FCU PM_{10} and PM_{Total} Performance Testing Requirements.

(2) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall shall maintain compliance with the PM operating limits established under 40 C.F.R. § 60.102a(c)(1) during its demonstration of compliance with the PM_{10} and PM_{TOTAL} emission limits in Condition D.22.3 - Emission Limits for PM_{10} and PM_{TOTAL}.

(3) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207 , for the purposes of this paragraph, the Permittee may use Method 201A in lieu of Method 5 to determine PM_{TOTAL} emissions, provided that the Pemittee follows the procedures in Method 201A for the collection and analysis of PM greater than 10 microns.

D.22.12 FCU PM_{10} and PM_{TOTAL} Performance Testing Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than 180 days after the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall implement a performance testing protocol in accordance with (a) through (e) as provided as follows:

Testing Frequency

(a) The Permittee shall conduct performance tests to measure emissions of PM_{10} and PM_{TOTAL} from FCU 600 on at least a semi-annual basis, with each semi-annual performance test being no sooner than four (4) calendar months from the date of completion of the previous semi-annual test. This shall not preclude the Permittee from conducting additional performance tests which are more frequent.

(1) Upon demonstrating, through at least four (4) valid, consecutive semi-annual tests conducted after December 31, 2013 that (i) the PM_{10} and PM_{TOTAL} limits (Condition D 22.3 - Emission Limits for PM_{10} and PM_{TOTAL}) are not being exceeded, (ii) the average of all four valid semi-annual tests is not more than 80% of the PM_{10} and PM_{TOTAL} limits and (iii) the average result from any valid semi-annual test is not greater than 90% of the PM_{10} and PM_{TOTAL} limits, the Permittee may reduce the frequency of performance testing to an annual basis.

(2) The Permittee may request EPA approval to reduce the frequency of such testing in other circumstances. EPA has sole discretion to approve or disapprove the Permittee's request, which shall not be subject to Dispute Resolution. In the event that a subsequent annual test indicates an exceedance of a PM_{10} or PM_{TOTAL} limit, EPA may elect to reinstate the requirement for semi-annual testing. EPA's decision to reinstate semi-annual testing shall not be subject to Dispute Resolution.

Test Methods for PM_{10} and PM_{TOTAL} Emissions

(b) The Permittee shall measure PM_{10} emissions using using EPA Methods 201A and 202. The Permittee may use EPA Method 5 in lieu of EPA Method 201A for purposes of demonstrating compliance with the PM_{10} emission limit (Condition D.22.3 - Emission Limits for PM_{10} and PM_{TOTAL}) provided that all PM measured by EPA Method 5 is considered as PM_{10}.

The Permittee shall measure PM_{TOTAL} emissions using EPA Methods 5 and 202. The Permittee may use EPA Method 201A in lieu of EPA Method 5 for purposes of demonstrating compliance with the PM_{TOTAL} emission limit provided that the Permittee

also follows the procedures in EPA Method 201A for the collection and analysis of PM greater than 10 microns.

Test Run Duration

(c) Each performance test shall be comprised of at least three (3) valid two-hour stack test runs. The Permittee shall discard any invalid test runs, such as those that are compromised because of sample contamination. If a test run is discarded, it shall be replaced with an additional valid test run. The Permittee shall report the results of the discarded test runs and shall provide all information necessary to document why the test run was not valid.

Valid Performance Tests

(d) A PM_{10} and PM_{TOTAL} test shall not be considered a valid test, and the Permittee will not have met the requirement of this condition to test, unless each of the following conditions is met:

(1) The average FCU 600 coke burn rate for all runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be less than actual average FCU 600 coke burn rate over the time period since the previous performance test;

(2) The average SO_2 concentration for all runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be greater than 10 ppmvd @ 0% O_2; and

(3) The average total ammonia injection rate for all runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be less than average total ammonia injection rate over the time period since the previous performance test.

(4) Throughout the performance test, the Permittee shall target the average ESP total primary power since the last stack test. The average ESP total primary power for all the runs used in determining compliance with the PM_{10} and PM_{TOTAL} emission limits must not be greater than 120% of the average ESP total primary power since the last stack test.

Additional Parametric Monitoring During the Tests

(e) The Permittee shall monitor or calculate and record SO_2 concentration, NO_X concentration, catalyst additive rates, ammonia addition prior to ESP, ammonia slip, the FCU 600 coke burn-off rate, regenerator overhead temperatures, and FCU 600 feed rate for each test run. The Permittee shall reduce this monitoring data to an average that matches the time period of each test run.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.22.13 FCU VOC Performance Testing Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, and in order to demonstrate compliance with the emission limit in D.22.10 - FCU 600 VOC Emissions, by no later than December 31, 2013, and annually thereafter, the Permittee shall conduct performance tests to measure emissions of VOC from FCU 600, except as provided as follows:

(a) If a stack test for FCU 600 demonstrates that VOC emissions from FCU 600 are less than half of the applicable VOC emissions limit in Condtion D.22.10 - FCU 600 VOC Emissions, the Permittee may thereafter elect to conduct stack tests at least once every three (3) years at FCU 600 in lieu of annual stack testing.

(b) If, after the Permittee exercises the option to conduct stack testing at least once every three (3) years pursuant to this paragraph, and a stack test thereafter demonstrates an exceedance of the applicable VOC emissions limit in Condition D.22.10 - FCU 600 VOC Emissions, the Permittee shall resume annual stack testing for FCU 600.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) and utilizing methods approved by the commissioner. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.22.14 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as required by Consent Decree No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall use NO_X, SO_2, CO and O_2 CEMS to demonstrate compliance with the NO_X, SO_2 and CO limits in Conditions D.22.10(a), (b), (c), (d), (e), (f), (g) and (j). The Permittee shall install, certify, calibrate, maintain and operate NO_X, SO_2, CO, and O_2 CEMS for FCU 600 in accordance with the provisions of 40 CFR 60.13 that are applicable to CEMS (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B. The Permittee must conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed.

(b) The NO_X, CO, SO_2, and O_2 continuous emission monitoring systems (CEMS) for FCU 600 shall be calibrated, maintained, and operated for determining compliance with NO_X, CO, and SO_2 emissions limits for FCU 600 in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment.

Compliance Monitoring Requirements

D.22.15 Inspection and Monitoring Requirements for the Electrostatic Precipitator [326 IAC 6.8-8-7]

Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(r)(2)), the Permittee shall maintain a Continuous Compliance Plan (CCP) for the ESP. The CCP shall include recording, inspection, and maintenance procedures in accordance with the requirements provided in 326 IAC 6.8-8-7(2)(A) and (B) (formerly 326 IAC 6-1-10.1(r)(2)(A) and (B)), including operating parameters to be monitored and the inspection and maintenance schedule to be followed. The Permittee shall inspect the ESP according to the schedule and procedures specified in the CCP. Pursuant to 326 IAC 2-7-5(1)(B)(ii), the inspection schedule records shall be available for inspection by IDEM, OAQ for up to five (5) years after the date of inspection.

D.22.16 Continuous Monitoring [326 IAC 3-5][326 IAC 6.8-8]

(a) Pursuant to SPM 089-15202-00003, issued on April 24, 2002, SPM 089-18588-00453, issued July 15, 2004, and to demonstrate compliance with Condition D.22.7, the Permittee shall:

(1) The Permittee shall use NO_X CEMS to monitor performance of FCU 600 and to report compliance with the terms and compliance with the terms and conditions of Consent Decree 2:96 CV 095 RL.

(2) The Permittee shall measure and record the hourly average concentration, on a dry basis, of carbon monoxide in the exhaust gas stream. Process analyzers, calibrated in accordance with the manufacturer's recommendations, may be used for this purpose.

(3) The Permittee shall use a SO_2 CEMS to monitor performance of FCU 600 and to report compliance with the terms and conditions of Consent Decree 2:96 CV 095 RL.

(b) Pursuant to 326 IAC 3-5 and 326 IAC 6.8-8-5(2) (formerly 326 IAC 6-1-10.1(p)(2)), the Permittee shall continuously monitor the opacity of exhaust gases from the catalyst regenerator stack at all times when the catalyst regenerator is in operation. The Permittee shall comply with the performance and operating specifications in 326 IAC 3-5-2, the certification process in 326 IAC 3-5-3, the operation procedures in 326 IAC 3-5-4, and the quality assurance requirements in 326 IAC 3-5-5 for the continuous opacity monitor.

(c) Pursuant to 326 IAC 6.8-8-5(2) (formerly 326 IAC 6-1-10.1(p)(2)), the Permittee shall continuously monitor coke burn off rate, in pounds per hour, as specified in the Continuous Compliance Plan (CCP).

(d) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall monitor and record the daily values for the following operating parameters:

(1) The feed rate, in barrels per day, for FCU 600;

(2) The average rate, in pounds per hour, at which SO_2-reducing catalyst additive is added to FCU 600; and

(3) The average amount of ammonia in pounds per hour that is separately injected into the FCU 600 vaporizer and the FCU 600 ESP.

D.22.17 Supplemental FCU PM Monitoring Requirements [19]

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree in Civil No. 2:12-CV-00207, by no later than the the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the Permittee shall monitor and record the daily values for the following operating parameters:

(a) The feed rate, in barrels per day, for FCU 600;

(b) The average rate, in pounds per hour, at which SO_2-reducing catalyst additive is added to FCU 600; and

(c) The average amount of ammonia in pounds per hour injected into the FCU 600 ESP.

D.22.18 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

D.22.19 Compliance Assurance Monitoring (CAM) [40 CFR Part 64]

(a) Pursuant to 40 CFR Part 64, the Permittee shall comply with the following Compliance Assurance Monitoring requirements for the electrostatic precipitator controlling FCU 600:

Monitoring Approach for PM_{10} and PM_{Total} Emissions From FCU 600			
Parameter	**Indicator No. 1**	**Indicator No. 2**	**Indicator No. 3**
I. Indicator	Proper Operation of Electrostatic Precipitator (ESP)	Particulate loading at the Electrostatic Precipitator (ESP) inlet	Inspection and Maintenance
Measurement Approach	Average ESP total primary power and secondary current.	Average exhaust coke burn-off rate	Inspections and Maintenance of the ESP
II. Indicator Range	An excursion is defined as a 3-hour rolling average ESP total primary power or secondary current falling below the level established in the most recent performance test conducted pursuant to 40 CFR §60.104a.	An excursion is defined as a daily average exhaust coke burn-off rate exceeding the level established during the during the most recent performance test conducted pursuant to 40 CFR §60.104a.	An excursion is defined as not following the inspection schedule and procedures specified in the Continuous Compliance Plan (CCP).
III. Performance Criteria	--	--	--
A. Data Representativeness	Continuous Parameter Monitoring System (CPMS) requirements in 40 CFR 60.105a(b)(1)(i) and (iii).	Continuous Parameter Monitoring System (CPMS) requirements in 40 CFR 60.105a(b)(1)(iii) and (iv).	Recording, inspection, and maintenance procedures as prescribed in Condition D.22.16.
B. Verification of Operational Status	Data being reported to DCS on a continuous basis.	Data being reported to DCS on a continuous basis.	Records kept as prescribed in Condition D.22.16.
C. QA/QC Practices and Criteria	Periodic inspection and maintenance of the ESP and monitoring systems per CCP.	N/A	Update the CCP as needed.
D. Monitoring Frequency	Measure and record hourly average ESP total primary power and secondary voltage to the entire system per 40 CFR 105a(b)(1)(i).	Determine and record the average coke burn-off rate and hours of operation for FCU 600 per 40 CFR 105a(b)(1)(iv).	As prescribed in the CCP which meets the requirements of 326 IAC 6.8-8-7.
IV. Data Collection Procedure	Continuous Parameter Monitoring System meeting the requirements of 40 CFR 60.105a(b)(1)(i) and (iii).	Continuous Parameter Monitoring System meeting the requirements of 40 CFR 60.105a(b)(1)(iii) and (iv).	Per the methods prescribed in the CCP which meets the requirements of 326 IAC 6.8-8-7.
Averaging Period	3-hour average rolled hourly.	Daily average	N/A

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.22.20 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(C) and to document the compliance status with Condition D.22.2, the Permittee shall maintain daily records of the following:

(1) calculated coke burn off rate for FCU 600, and

(2) sulfur content of the coke.

(b) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Conditions D.22.3, D.22.8, D.22.14, D.22.16, and D.22.19, the Permittee shall keep the following records for the continuous opacity monitor and continuous emission monitors:

(1) One-minute block averages;
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities,
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.22.4(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.22.4(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(e) Pursuant to SPM 089-15202-00003, issued April 24, 2002, SPM 089-18588-00453, issued July 15, 2004, and to document the compliance status with Condition D.22.7, the Permittee shall maintain records of the 1-hour average CO emissions.

(f) Pursuant to 326 IAC 6.8-8-3 and 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5), (q)(1), and (r)(2)) and to document the compliance status with Condition D.22.1, the Permittee shall maintain records for the FCU and ESP as specified in the Continuous Compliance Plan.

(g) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.22.6, the Permittee shall keep records as specified in Sections E.1 and E.3.

(h) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.22.5, the Permittee shall maintain records as specified in Section E.10.

(i) In order to document the compliance status with Condition D.22.3, the Permittee shall maintain records of daily fresh feed to FCU 600 and the coke burned at FCU 600 each month.

(j) In order to document the compliance status with Condition D.22.3, the Permittee shall maintain records of monthly emissions of SO_2, NO_X, and CO from FCU 600.

(k) To document compliance with Condition D.22.4(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) To document compliance with Condition D.22.9, the Permittee shall keep records pursuant to 40 CFR 60, Subpart Ja, as specified in Section E.18.

(m) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (c), (e), (f), (i) and (j) of this condition.

D.22.21 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Condition D.22.2 the Permittee shall submit a report containing the average daily sulfur dioxide emission rate in pounds per hour not later than thirty (30) days after the end of each calendar quarter.

(b) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Condition D.22.8, the Permittee shall submit reports of excess opacity emissions not later than thirty (30) days of the end of each quarter in which excess emissions occur. Pursuant to 321 IAC 3-5-7, the reports shall include:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. The actual opacity of each averaging period for each period in excess of the opacity limit. If the exceedance occurs continuously beyond one (1) six (6) minute period, the Permittee shall report either the percent opacity for each six (6) minute period or the highest six (6) minute average opacity for the entire period.
(5) A summary itemizing the exceedances by cause.

(c) Pursuant to 326 IAC 3-5-4(a), if revisions are made to the standard operating procedures (SOP) submitted to OAQ for the continuous opacity monitor, updates shall be submitted biennially.

(d) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.22.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(e) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.22.5(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(f) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.22.3, D.22.7, and D.22.14, the Permittee shall submit reports of excess CO, SO_2, and NO_X emissions at FCU 600 not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the

applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.

(5) A summary itemizing the exceedances by cause.

(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(A) Date of downtime.

(B) Time of commencement.

(C) Duration of each downtime.

(D) Reasons for each downtime.

(E) Nature of system repairs and adjustments

(g) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.22.5, the Permittee shall submit to IDEM, OAQ the reports as specified in Section E.10.

(h) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.22.6, the Permittee shall submit reports as specified in Sections E.1 and E.3.

(i) In order to document the compliance status with Condition D.22.3, the Permittee shall submit quarterly reports for the fresh feed used and coke burned at FCU 600 each month not later than thirty (30) days of the end of each quarter.

(j) In order to document the compliance status with Condition D.22.3, the Permittee shall submit quarterly reports of monthly emissions of SO_2, NO_X, and CO from FCU 600 not later than thirty (30) days of the end of each quarter.

(k) To document compliance with Condition D.22.4(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(l) To document compliance with Condition D.22.9, the Permittee shall submit reports pursuant to 40 CFR 60, Subpart Ja, as specified in Section E.18.

(m) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (b), (c), (d), (f), (i) and (j) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.23 FACILITY OPERATION CONDITIONS - No. 1 Stanolind Power Station

Facility Description [326 IAC 2-7-5(14)]:

(w) A portion of No. 1 Stanolind Power Station (SPS) constructed in 1928 and identified as Unit ID 501. The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas, are NO_X budget units:

(1) The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Boiler Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
#5 Boiler	265	501-02	None
#6 Boiler	265	501-02	None
#7 Boiler	265	501-02	None

Note: The boilers in No. 1 Stanolind Power Station are scheduled to be shut down as part of the Consent Decree 2:96CV 095RL.

(2) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

The No. 1 SPS Boilers 5, 6 and 7 were shut down as of April 1, 2010.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

SECTION D.24 FACILITY OPERATION CONDITIONS - No. 3 Stanolind Power Station

Facility Description [326 IAC 2-7-5(14)]:

(x) A portion of No. 3 Stanolind Power Station (SPS) constructed as listed below and identified as Unit ID 503. The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas, are NO_X budget units:

(1) The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas:

Boiler Identification	Installation Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
#1 Boiler	1948	575	503-01	(current) low- NO_X burners, an induced flue gas recirculation (IFGR) system, and an over fired air (OFA) system
#2 Boiler	1948	575	503-02	Per SPM 089-25488-00453 : The low- NO_X burners, IFGR and OFA will be replaced by conventional burners and a Selective Catalytic Reduction (SCR) system on Boilers # 1, 2, 3, 4, 6
#3 Boiler	1951	575	503-03	
#4 Boiler	1951	575	503-04	
#6 Boiler	1953	575	503-05	

(2) Five (5) direct-fired duct burners, permitted in 2008 (SPM 089-25488-00453), rated at 41 mmBTU/hr each, equipped with low NO_X burners and controlled by a Selective Catalytic Reduction (SCR) system.

(3) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation and heat exchange systems.

(4) Insignificant Activity: one (1) glycol dehydration unit (GDU) to remove water from the refinery fuel gas system to reduce corrosion, which is composed of a glycol contactor and a stripper. Natural gas is used as the stripping medium The unit consists of the following equipment: a small (approx. 1,500 gal) tank to deliver glycol to the system, a glycol system of approx. 8,000 gal in capacity, heat exchangers and a coalescer, coolers, condensers, a glycol contactor, a glycol regenerator with a reboiler and stripper, and filters (carbon and sock types).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.24.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), PM_{10} emissions from each stack serving No. 3 power station boilers #1, #2, #3, #4 and #6 shall not exceed 0.0075 pounds per million Btu heat input and 4.28 pounds per hour for each boiler.

These emission limits are specific to the boilers and do not apply to the duct burners or collateral emissions associated with selective catalytic reduction (SCR).

D.24.1.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), filterable PM_{10} emissions from each stack serving Boilers #1, #2, #3, #4 and #6 shall not exceed 0.030 pounds per million Btu heat input and 17.49 pounds per hour for each boiler.

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.24.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.24.2 Lake County PM_{10} Emissions Limitations [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2, PM emissions from the five (5) duct burners shall not exceed 0.03gr/dscf.

D.24.3 Lake County Sulfur Dioxide (SO_2) Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7-4.1-3, sulfur dioxide emissions from Boilers #1, #2, #3, #4 and #6 shall each not exceed 18.98 pounds per hour and 0.033 pounds per million Btu heat input.

D.24.4 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for No. 3 Stanolind Power Station Boilers 1, 2, 3, 4 and 6 and the duct burners:

(a) After the installation of the five (5) duct burners and the conventional burners and a Selective Catalytic Reduction (SCR) on boilers 1,2,3,4 and 6, the Permittee shall comply with the following :

(1) The emissions of VOC from the five (5) duct burners shall not exceed 0.0054 pound per million BTU.

(2) The firing rate (total) at the five (5) boilers shall not exceed 24,303,535 mmBTU per 12 consecutive month period, with compliance determined at the end of each month.

(3) The firing rate (total) at the five (5) duct burners shall not exceed 1,732,947 mmBTU per 12 consecutive month period, with compliance determined at the end of each month.

(4) The emissions of CO (total) from boilers 1, 2, 3, 4, and 6 and the five (5) duct burners shall not exceed 260.4 tons per 12 consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to SSM 089-32033-00453, the Permittee shall comply with the following for No. 3 Stanolind Power Station Boilers 1, 2, 3, 4 and 6 and the duct burners:

(1) The total emissions of NO_X from the five (5) duct burners shall not exceed 17.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(2) The emissions of PM from each of the five (5) duct burners shall not exceed 0.012 pound per million BTU.

(3) The emissions of PM_{10} from each boiler/SCR stack shall not exceed 0.010 pound per million BTU.

(c) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.24.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.24.5 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to Permit SPM 089-15202-00003, issued April 24, 2002 and 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for the No. 3SPS Boilers .

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the No. 3 SPS five (5) duct burners are affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60,Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for the No.3 SPS five (5) duct burners.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, No. 3 SPS Boilers 1, 2, 3, 4 and 6 shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for No. 3 SPS Boilers 1, 2, 3, 4.

D.24.6 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements of Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at No. 3 SPS.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the No. 3 SPS is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Sections E.25– 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the No. 3 SPS no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The No. 3 SPS shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.24.7 Clean Air Interstate Rule (CAIR) NO_X Ozone Season Trading Program [326 IAC 24-3]

Pursuant to 326 IAC 24-3, the Permittee shall comply with the Clean Air Interstate Rule (CAIR) NO_X Ozone Season Trading Program requirements for boilers #1 through #4 and #6, which are specified in Section F.1.

D.24.8 Wastewater/Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ] [326 IAC 14] [40 CFR 61, Subpart FF]

(a) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual wastewater drains systems.

(b) Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

D.24.9 Requirements for 40 CFR Part 60, Subpart Dc [326 IAC 12] [40 CFR 60, Subpart Dc]

Pursuant to 40 CFR 60, Subpart Dc, the Permittee shall comply with the requirements specified in Section E.19 for the five (5) duct burners associated with 3SPS Unit ID 503.

Compliance Determination Requirements

D.24.10 Operating Requirement

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to Permit SPM 089-15202-00003, issued on April 24, 2002, effective June 1, 2003 and SPM 089-18588-00453, issued July 15, 2004, "fuel oil" shall not be used as fuel for the No. 3SPS Boilers 1, 2, 3, 4 and 6 and the five (5) duct burners.

(b) Within 90 days of start-up after the installation of the five (5) duct burners and the conventional burners and the Selective Catalytic Reduction (SCR) units on Boilers 1, 2, 3, 4 and 6, pursuant to Permit SSM 089-25484-00453, issued May 1, 2008, the emissions of NO_X from Boilers 1, 2, 3, 4 and 6 shall not exceed 0.02 pound per million BTU, as a “365-day rolling average”.

D.24.11 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in Boilers 1, 2, 3, 4 and 6 and the five (5) duct burners shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average' basis.

D.24.12 Compliance Determination Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the NO_X emission limits in Conditions D.24.4(b)(1) shall be calculated using the following equation:

E_{tpy} = lb/mmBTU [NO_X] * H * 1 ton/2000 lbs.			
Where:			
	E_{tpy}	=	Stack [NO_X] emissions in tons per year
	lb/mmBTU	=	lb/mmBTU calculated using 40 CFR Part 60, Appendix A, Method 19, using the average concentration as measured by the CEMS over the preceding 12 months.
	H	=	Total heat input in mmBTU to the unit from all fuels fired in the unit over the previous rolling 12-month period

D.24.13 Performance Testing Requirements

Pursuant to SSM 089-32033-00453, the Permittee shall perform VOC testing of SPS #1 Boiler, #2 Boiler, #3 Boiler, #4 Boiler, and #6 Boiler and the five (5) direct-fired duct burners utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Condition D.0.4 – Initial Testing Requirements for Existing Affected Emissions Units contains the Permittee’s requirements with regards to the initial compliance demonstration for VOC testing of SPS #1 Boiler, #2 Boiler, #3 Boiler, #4 Boiler, and #6 Boiler and the five (5) direct-fired duct burners. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

D.24.14 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in the No. 3 SPS Boilers 1, 2, 3, 4 and 6 and the five (5) duct burners. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) In order to demonstrate compliance with Condition D.24.4, the Total Sulfur Continuous Analyzers, CO and NO_X continuous emission monitoring systems (CEMS) for the boiler/duct burner stacks shall be calibrated, maintained, and operated for determining compliance with SO_2, CO and NO_X emissions limits for the boilers 1, 2, 3, 4, and 6 and the five (5) duct burners in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment.

Compliance Monitoring Requirements

D.24.15 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.24.16 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.24.3 and D.24.10 the Permittee shall maintain a daily record of the following for the No. 3 SPS Boilers:

(1) operational status of each facility,
(2) fuel type,
(3) average daily sulfur content for each fuel type,
(4) average daily fuel gravity for each fuel type,
(5) total daily fuel usage for each type, and
(6) heat content of each fuel type.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(p) and 326 IAC 6-1-10.1(n)(5)), and to document the compliance status with Condition D.24.1.2(b), the Permittee shall maintain records as specified in the Continuous Compliance Plan.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.24.6(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(d) In order to document the compliance status with Condition D.24.4, the Permittee shall maintain records of monthly firing rates and CO emissions at No. 3 Stanolind Power Station boilers 1, 2, 3, 4, 6, and the five (5) duct burners.

(e) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.24.5, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(f) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.24.8, the Permittee shall maintain records specified in Sections E.3 and E.6.

(g) Pursuant to 40 CFR 63, Subpart CC and to document compliance with Condition D.24.6(b), the Permittee shall maintain records as specified in Sections E.1 and E.4.

(h) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.24.6(c), the Permittee shall maintain records as specified in Sections E.25 and E.26.

(i) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.24.14, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(j) Pursuant to 40 CFR 60, Subpart Dc and to document the compliance status with Condition D.24.9, the Permittee shall maintain records as specified in Section E.19 for the five (5) duct burners.

(k) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (c), (d) and (i) of this condition.

D.24.17 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.24.3 and D.24.10, the Permittee shall submit a report to IDEM, OAQ not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, in pounds per hour for the No. 3 SPS Boilers.

(b) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.24.6(a) the Permittee shall submit reports as specified in the LDAR plan.

(c) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.24.5, the Permittee shall submit reports as specified in Sections E.2 and E.18.

(d) Pursuant to 40 CFR 60, Subpart QQQ and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.24.8, the Permittee shall submit reports as specified in Sections E.3 and E.6.

(e) In order to document the compliance status with Condition D.24.4, the Permittee shall submit a quarterly summary of the monthly firing rates and CO emissions for the boilers 1, 2, 3, 4, 6 and five (5) duct burners not later than thirty (30) days after the end of the quarter being reported.

(f) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.24.4 and D.24.14, the Permittee shall submit reports of excess CO and NO_X emissions not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
(A) Date of downtime.
(B) Time of commencement.
(C) Duration of each downtime.
(D) Reasons for each downtime.
(E) Nature of system repairs and adjustments.

(g) Pursuant to 40 CFR 63, Subpart CC and to document compliance with Condition D.24.6(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(h) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.24.6(c), the Permittee shall submit reports as specified in Sections E.25 and E.26.

(i) Pursuant to 40 CFR 60, Subpart Dc and to document the compliance status with Condition D.24.9, the Permittee shall submit reports as specified in Section E.19 for the five (5) duct burners.

(j) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (b), (e) and (f) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.25 FACILITY OPERATION CONDITIONS - Hazardous Waste Treatment Facility

Facility Description [326 IAC 2-7-5(14)]:

(y) Hazardous Waste Treatment System:

(1) Dewatering system for processing sludge, per SSM 089-25484-00453, issued May 1, 2008, including dissolved air flotation skimmings (DAF) and API oil/water separator sludge. The dewatering system will be equipped with a wet scrubber and carbon canister system. The feed rate capacity at the DAF/API dewatering system is 60,000 gallons per day. This facility includes the following emission sources and may include insignificant activities listed in Section A.4 of the permit:

(A) Two (2) centrifuges;

(B) Two (2) sludge surge tanks;

(C) One (1) oil/water mixture surge tank;

(D) One (1) enclosed auger transfer system;

(E) One (1) vapor recovery system on the dewatering system including a wet scrubber and carbon canister system.

(2) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(3) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.25.1 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the dewatering and thermal desorption system:

The VOC emissions from the DAF/API dewatering system and associated fugitives shall not exceed 2.4 tons per 12 consecutive month period, with compliance at the end of each month.

Compliance with the VOC emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.25.2 Emission Offset [326 IAC 2-3]

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the dewatering systems:

(a) The VOC emissions from the DNF dewatering systems shall not exceed 7.3 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the Tank Cleaning Dewatering System, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.5 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the VOC emissions limits , in conjunction with the emissions limits in Condition D.26.6, shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

D.25.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.25.4 Petroleum Refineries [326 IAC 8-4-2]

Pursuant to 326 IAC 8-4-2(2), the Permittee shall equip all wastewater (oil/water) separators, forebay, and openings in covers with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

D.25.5 Wastewater / Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for all wastewater tanks and waste streams associated with the dewatering systems, individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.25.6 Equipment Leaks of Volatile Organic Compounds (VOC) [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request the Permittee to revise the plan.

D.25.7 VOC Control

(a) In order to ensure compliance with Condition D.25.2, the carbon canisters for VOC control shall be in operation and control emissions from the DNF dewatering system and the Tank Cleaning Dewatering System at all times the DNF dewatering system and the Tank Cleaning Dewatering System are in operation.

(b) Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraphs 52.a.i and ii, of section J of the Consent Decree entered in Civil No. 2:12-CV-00207, the vapor recovery and carbon canister systems for the DNF dewatering system, and Tank Cleaning Dewatering System shall consist of primary and secondary carbon canisters, operated in series (the "dual-canister" option). BP may comply with the requirements of the dual canister option required under this sub-paragraph by using a single canister with a "dual carbon bed" if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with the following:

(1) BP shall conduct breakthrough monitoring between the primary and secondary carbon canisters or beds when there is actual flow to the carbon canister. Such monitoring shall be conducted in accordance with the frequency specified in 40 CFR 61.354(d) using as the design basis the applicable breakthrough definition specified in sub-paragraph 52.a.iii of section J of the Consent Decree entered in Civil No. 2:12-CV-00207 (Condition D.25.9(d)). If a carbon canister or bed becomes unsafe to monitor because it is located within a temporary exclusion zone, BP shall monitor the canister or bed as soon as is practicable after the exclusion zone is no longer in effect, but in no case later than the end of the normal monitoring interval for the canister or bed or within 3 days of the end of the exclusion period, whichever is sooner.

(c) In order to demonstrate compliance with Condition D.25.2, monthly emissions from the DNF dewatering system and the Tank Cleaning Dewatering System shall be calculated as follows:

VOC Emissions (ton/month) = $\Sigma^{n}[C_{VOC} * 10^{-6} * F_{Vent} * MW * P / (R * T)] / 2000$ (lb/ton)

where:

n =	number of days per month;
C_{VOC} (ppmv) =	measured VOC concentration at carbon canister outlet or 50 ppmv;
F_{Vent} (scf/day) =	daily average carbon canister vent exhaust flow, at 519.7 R (60°F) and 14.7 psia (1 atm);
MW (lb/lbmol) =	molecular weight of vent exhaust as determined by Condition D.25.8 - Sampling Requirements;
P (psia) =	14.7 psia;
T (R) =	519.7 R; and
R (ft^3 psi R^{-1} $lbmol^{-1}$) =	Universal Gas Constant, 10.731 ft^3 psi R^{-1} $lbmol^{-1}$.

If the Permittee opts to use the measured VOC concentration in lieu of 50 ppmv, the VOC concentration shall be determined in accordance with 40 CFR 61.354(a)(1), as in effect on May 13, 2013.

D.25.8 Sampling Requirements

(a) Not later than 30 days after the startup of the DNF dewatering system, the Permittee shall sample and determine the molecular weight of the vent exhaust from the dual carbon canisters controlling the DNF dewatering system. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

(b) The Permittee shall sample and determine the molecular weight of the vent exhaust from the dual carbon canisters controlling the Tank Cleaning Dewatering System at least once per quarter when the Tank Cleaning Dewatering System is in operation or once per cleaning event, whichever is more frequent.

Compliance Monitoring Requirements

D.25.9 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

D.25.10 Carbon Canister Monitoring

In order to demonstrate compliance with Condition D.25.2, the Permittee shall comply with the following:

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the dual carbon canisters for measuring the vent exhaust flow rate. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes.

(b) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(1) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(2) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(c) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(d) Breakthrough Definition:
Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraph 52.a.iii of Section J of the Consent Decree entered in Civil No. 2:12-CV-002072, breakthrough shall be considered either 50 ppmv VOC or 1 ppmv benzene. BP shall immediately replace the primary carbon canister or bed when the design value for the primary canister or bed is exceeded (as monitored between the primary and secondary carbon canisters or carbon beds). Unless both the primary and secondary carbon canisters or beds are replaced with fresh ones, the original secondary carbon canister or bed shall become the new primary carbon canister or bed and a fresh secondary carbon canister or bed shall be installed. In all cases, any carbon canister or bed used as the primary unit shall have sufficient capacity to meet the breakthrough definition of this sub-paragraph. For

purposes of this sub-paragraph, “immediately” means no later than within twenty-four (24) hours.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.25.11 Record Keeping Requirements

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall keep records as specified in Section E.1 and E.3.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall keep records as specified in Section E.6.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.25.6, the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(d) In order to demonstrate the compliance status with Conditions D.25.2, D.25.7, and D.25.8, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC limit established in Condition D.25.2:

(1) The number of days per month used in the equation in Condition D.25.7(c).

(2) The C_{VOC} used to calculate the equation in Condition D.25.7(c).

(3) The daily average carbon canister vent exhaust flow, at 519.7 R (60° F) and 14.7 psi (1 atm).

(4) The molecular weight of the vent exhaust for the DNF dewatering system and Tank Cleaning Dewatering System.

(5) The VOC emissions from the DNF dewatering system (ton/month).

(6) The VOC emissions from the Tank Cleaning Dewatering System (ton/month).

(e) In order to demonstrate the compliance status with Condition D.25.10:

(1) If a carbon adsorber that regenerates the carbon bed directly on site in the control device is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas stream. If the concentration of organics or the concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(2) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

(f) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (c) and (d) of this condition.

D.25.12 Reporting Requirements

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall submit reports as specified in Sections E.1 and E.3.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall submit reports as specified in Section E.6.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.25.6, the Permittee shall submit reports as specified in the LDAR plan.

(d) A quarterly summary of the information to document the compliance status with Condition D.25.2 shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(e) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (c) and (d) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.26 FACILITY OPERATION CONDITIONS - Wastewater Treatment Plant

Facility Description [326 IAC 2-7-5(14)]:

(z) Wastewater Treatment Plant (WWTP), identified as Unit ID 544. This facility treats the water used in the refining process that comes into contact with oil or chemicals. In the first step, the heavier solids are removed at the inlet to the WWTP and the floating oil is skimmed from the surface of the wastewater in the API separator boxes. The oil is then recycled back to the refinery. The water is then aerated in the Air Flotation Unit where additional solid impurities are floated and skimmed. As part of the Lakefront Upgrades (LFU) Project, approved in 2014 for modification, the larger solids in the wastewater will be removed in the new Solids Collection System. Then the wastewater will be routed to tanks TK-5050, TK-5051 and TK-5052, which will operate in parallel and serve as oil-water separators, equalization, and stormwater surge. Floating oil will be separated and skimmed from the tanks and recycled. The water will be routed to the new Dissolved Nitrogen Floatation (DNF) Units to remove suspended solids and oil, which will be floated and skimmed. Thereafter, it moves to the Activated Sludge Plant where special bacteria digest the remaining contaminants. The water then passes through a clarifier and then final filters before being returned to Lake Michigan. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

(1) The following units are equipped with closed vent systems: oil sump P-1, oil sump P-2, solids tank TK-562, which will vent to carbon canisters by no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, installed as a part of the Lakefront Upgrades Project; and Dissolved Air Floatation (DAF) Secondary Boxes, which vent to a biofilter and carbon canisters; Tank 569 is equipped with a conservation vent.

(2) The following units are equipped with a fixed-roof or floating roof: Interceptor Box, Diversion Box (from Tank TK-5051 to DAF), DAF Flash Mixer, DAF Influent Channel, DAF Effluent Channel, DAF Primary Boxes, and DAF Sump.

(3) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5051) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988 and equipped with an external floating roof.

(4) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5050) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988. As part of the Lakefront Upgrades Project, TK-5050 will be equipped with an external floating roof, constructed in 2014.

(5) Seven (7) oil-water/solids separator units enclosed with a fixed-roof: Bar Screen, #7 API Separator Fixed Cover, #7 API Separator Primary Inlet, #7 API Separator Secondary Inlet, #7 API Separator Secondary Outlet, #7 API Separator Inlet Channel Section, and #7 API Separator Gear Boxes.

(6) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5052) having a maximum storage capacity of 11,676,000 gallons, to be constructed as part of the WRMP Project. This tank is equipped with an external floating roof.

(7) A brine treatment system with four (4) fixed roof tanks equipped with an iron sponge, constructed as part of WRMP project, identified as:

(A) TK-101, with a storage capacity of 128,972 gallons;
(B) TK-102, with a storage capacity of 128,972 gallons;
(C) TK-103, with a storage capacity of 128,972 gallons; and
(D) TK-104, with a storage capacity of 51, 580 gallons.

(8) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(A) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(B) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(9) One (1) Solids Collection System, which consists of the J-92 pump lift station and strainer backwash system, with a storage capacity of 5,257 gallons, constructed as part of the Lakefront Upgrades Project.

(10) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(11) Sewer components associated with the Lakefront Upgrades Project.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.26.1 Petroleum Refineries [326 IAC 8-4-2]

Pursuant to 326 IAC 8-4-2 (2), the Permittee shall equip all wastewater (oil/water) separators, forebay, and openings in covers with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

D.26.2 Wastewater / Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for the Dissolved Nitrogen Floatation (DNF) System, tanks TK-5050, TK-5051, and TK-5052, float and sludge handling tanks TK-303, TK-304, and TK-562, the solids collection system, individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, subpart CC specified in Section D.1.

(d) Pursuant to 40 CFR 63.647 of 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements of 40 CFR 61, Subpart FF, specified in Section E.3, for the Dissolved Nitrogen Floatation (DNF) System, tanks TK-5050, TK-5051, and TK-5052, the float and sludge handling tanks TK-303, TK-304, and TK-562, the solids collection system, and the four tanks in the brine treatment system (TK-101, TK-102, TK-103 & TK-104).

D.26.3 Volatile Organic Compound (VOC) Emission Offset

Pursuant to OP 45-08-93-0574, issued January 12, 1990, the VOC emissions from the Oil-Water Separator (#7) shall not exceed 602 tons per year.

D.26.4 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Brine Treatment Tanks (TK-101, TK-102, TK-103 and TK-104) shall be equipped with fixed roofs and shall be vented to (i) an iron sponge control system followed by (ii) a carbon canister meeting the requirements of 40 CFR § 61.349(a)(2) and Paragraph 52 of Section J of the Consent Decree entered in Civil No. 2:12-CV-00207. Subject to EPA approval, the Permittee shall have the ability to utilize an alternative to the carbon canister authorized by 40 CFR § 61.349(a)(2).

D.26.5 Emissions Monitoring

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, for the brine treatment system the permitee shall monitor the daily average H_2S concentration on the outlet of the iron sponge system and daily total vapor flow to the iron sponge system. Process analyzers calibrated in accordance with manufacturer's recommendations may be used for this purpose.

D.26.6 Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System, constructed as part of the Lakefront Upgrades Project, shall not exceed 10.4 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) By no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, constructed as a part of the Lakefront Upgrades Project, emissions from TK-562 shall be routed to a carbon canister control device that meets all applicable control and/or treatment requirements under the Benzene Waste Operations NESHAP.

Compliance with the VOC emissions limits, in conjunction with the emissions limits in Condition D.25.1,shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

D.26.7 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.26.8 VOC Control

(a) In order to ensure compliance with Condition D.26.6, the carbon canisters for VOC control shall be in operation and control emissions from the Dissolved Nitrogen Floatation (DNF) System and TK-562 at all times the DNF and TK-562 are in operation.

(b) Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraphs 52.a.i and ii, of section J of the Consent Decree entered in Civil No. 2:12-CV-00207, the vapor recovery and carbon canister systems for the Dissolved Nitrogen Floatation (DNF) System and TK-562 shall consist of primary and secondary carbon canisters, operated in series (the "dual-canister" option). BP may comply with the requirements of the dual canister option required under sub-paragraph by using a single canister with a "dual

carbon bed" if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with the following:

(1) BP shall conduct breakthrough monitoring between the primary and secondary carbon canisters or beds when there is actual flow to the carbon canister. Such monitoring shall be conducted in accordance with the frequency specified in 40 CFR 61.354(d) using as the design basis the applicable breakthrough definition specified in sub-paragraph 52.a.iii of section J of the Consent Decree entered in Civil No. 2:12-CV-00207 (Condition D.26.9(d)). If a carbon canister or bed becomes unsafe to monitor because it is located within a temporary exclusion zone, BP shall monitor the canister or bed as soon as is practicable after the exclusion zone is no longer in effect, but in no case later than the end of the normal monitoring interval for the canister or bed or within 3 days of the end of the exclusion period, whichever is sooner.

(c) In order to demonstrate compliance with Condition D.26.6(a), monthly emissions from the Dissolved Nitrogen Floatation (DNF) System shall be calculated as follows:

VOC Emissions (ton/month) = $\Sigma^{n}[C_{VOC} * 10^{-6} * F_{Vent} * MW * P / (R * T)] / 2000$ (lb/ton)

where:

n =	number of days per month;
C_{VOC} (ppmv) =	measured VOC concentration at carbon canister outlet or 50 ppmv;
F_{Vent} (scf/day) =	daily average carbon canister vent exhaust flow, at 519.7 R (60°F) and 14.7 psia (1 atm);
MW (lb/lbmol) =	molecular weight of vent exhaust as determined by Condition D.26.9 - Sampling Requirements.
P (psia) =	14.7 psia;
T (R) =	519.7 R; and
R (ft^3 psi R^{-1} $lbmol^{-1}$) =	Universal Gas Constant, 10.731 ft^3 psi R^{-1} $lbmol^{-1}$.

If the Permittee opts to use the measured VOC concentration in lieu of 50 ppmv, the VOC concentration shall be determined in accordance with 40 CFR 61.354(a)(1), as in effect on May 13,2013.

D.26.9 Sampling Requirements

Not later than 30 days after the startup of the Dissolved Nitrogen Floatation (DNF) System, the Permittee shall sample and determine the molecular weight of the vent exhaust from the dual carbon canisters controlling the Dissolved Nitrogen Floatation (DNF) System. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

Compliance Monitoring Requirements

D.26.10 Carbon Canister Monitoring

In order to demonstrate compliance with Condition D.26.6, the Permittee shall comply with one of the following:

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the dual carbon canisters for measuring the vent exhaust flow rate. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes.

(b) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(1) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(2) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(c) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(d) Breakthrough Defitinition:
Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraph 52.a.iii of Section J of the Consent Decree entered in Civil No. 2:12-CV-002072, breakthrough shall be considered either 50 ppmv VOC or 1 ppmv benzene. BP shall immediately replace the primary carbon canister or bed when the design value for the primary canister or bed is exceeded (as monitored between the primary and secondary carbon canisters or carbon beds). Unless both the primary and secondary carbon canisters or beds are replaced with fresh ones, the original secondary carbon canister or bed shall become the new primary carbon canister or bed and a fresh secondary carbon canister or bed shall be installed. In all cases, any carbon canister or bed used as the primary unit shall have sufficient capacity to meet the breakthrough definition of this sub-paragraph. For purposes of this sub-paragraph, “immediately” means no later than within twenty-four (24) hours.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.26.11 Record Keeping Requirements

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Conditions D.26.2(a) and (d), the Permittee shall keep records as specified in Section E.1 and E.3.

(b) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.26.2(b), the Permittee shall keep records as specified in Section E.6.

(c) In order to document the compliance status with Condition D.26.3, the Permittee shall maintain records of H2S concentration and flowrate from the brine treatment system.

(d) In order to demonstrate the compliance status with Condition D.26.6(a), D.26.8, and D.26.9, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC limit established in Condition D.26.6(a):

(1) The number of days per month used in equation D.26.8(c).

(2) The C_{VOC} used to calculate the equation in Condition D.26.8(c).

(3) The daily average carbon canister vent exhaust flow, at 519.7 R (60° F) and 14.7 psi (1 atm).

(4) The molecular weight of the vent exhaust for the Dissolved Nitrogen Floatation (DNF) System.

(5) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System (ton/month).

(e) In order to demonstrate the compliance status with Condition D.26.9:

(1) If a carbon adsorber that regenerates the carbon bed directly on site in the control device is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas stream. If the concentration of organics or the concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(2) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

(f) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (c), (d), and (e) of this condition.

D.26.12 Reporting Requirements

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Conditions D.26.2(a) and (d), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(b) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.26.2(b), the Permittee shall submit reports as specified in Section E.6.

(c) In order to document the compliance status with Condition D.26.5, the Permittee shall submit quarterly reports for the H2S emissions from the brine treatment system not later than thirty (30) days of the end of the reporting quarter.

(d) A quarterly summary of the information to document the compliance status with Condition D.26.6 shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(e) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (c) and (d) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.27 FACILITY OPERATION CONDITIONS - Oil Movements

Facility Description [326 IAC 2-7-5(14)]

(aa) Oil Movements, identified as Unit 640. This facility is used to store, blend, and ship products. Gasoline blending components are custom blended into various grades of gasoline. Additive and other compounds are blended into the products to give them their unique characteristics. Furnace oil and other distillates are also blended using components from process units or storage. Crude oil and feedstocks for process units and products are also stored at this location. Product loading operations include the pipeline and railcar racks. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

(1) One (1) internal floating roof storage tank identified as 3730, storing ethanol, constructed in 1955, with a maximum storage capacity of 1,050,721 gallons.

(2) Ten (10) external floating roof storage tanks storing petroleum hydrocarbon with vapor pressure less than 15 psia, comprising the following tanks:

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3529	1948	858,000
3637	1956 permitted in 2008 for reconstruction (SPM 089-25488-00453)	6,353,000
3901	1956	1,906,000
3902	1956	1,906,000
3915	1980	6,353,460
3916	1980	13,666,998
3917	1980	25,413,839
3918	1980	13,666,998
3919	1980	13,666,998
3920	1980	13,666,998

(3) Sixty-seven (67) internal floating roof storage tanks, storing petroleum hydrocarbon with vapor pressure less than 15 psia, comprising the following tanks:

Tank No.	Year Built or Modified	Maximum Capacity (gallons)
3474	1992	3,734,422
3475	1994	3,865,445
3476	1984	3,085,016
3477	1971	4,066,214
3480	1982	4,026,505
3482	1972	169,426
3483	1924	3,382,264
3484	1996	3,865,445
3486	1979	4,026,505
3487	1980	4,026,505
3488	1994	3,865,445
3489	1996	3,865,445
3492	1925/1971	3,382,000
3493	1995	3,865,445
3510	1949	4,235,640
3511	1973	4,066,214
3512	1958	4,066,214
3513	1971	4,066,214
3514	1984	4,066,214

3525	1981	4,026,505
3526	1943/1979	4,026,505
3527	1991	3,382,264
3528	1993	3,865,445
3531	1948/1997	857,717
3532	1953	868,306
3533	1953	4,235,640
3534	1955/1973	71,000
3549	1993	588,283
3553	1981	5,070,343
3554	1981	5,070,343
3558	1972/1986	376,501
3600	1993	847,128
3601	1977	3,702,020
3602	1979	3,856,271
3604	1980	3,856,271
3605	1977	3,702,000
3622	1993	3,865,445
3624	1932	3,382,264
3629	1992	3,865,445
3631	1944	3,382,000
3633	1950	5,282,000
3635	1954	5,070,000
3639	1956	6,353,460
3641	1956	6,353,460
3701	1943/1993	3,382,264
3702	1943/1982/1997	3,382,264
3704	1944/1980	3,382,264
3705	1944	3,382,264
3706	1944	3,382,264
3707	1944/2000	3,382,264
3708	1943	853,895
3709	1943	825,434
3710	1943	2,059,000
3715	1945/1987/1998	3,382,264
3716	1996	3,865,445
3727	1948	857,717
3728	1970	857,717
3860	1993	211,782
3900	1956/2005	1,906,000
3904	1956/1986	3,388,512
3905	1956	6,353,460
3907	1956/1996	3,388,512
3909	1956	3,388,512
3911	1956/1986	3,388,512
3912	1956	6,353,460
3914	1956	3,388,512

(4) Miscellaneous Storage tanks including the following:

Tank ID	Location	Description	Tank Construction Dates	Tank Capacity	Vapor Pressure of Liquid (psia)
D-424	4ULTRAFORMER	Methanol Tank	--	3,744	<0.5
F-011	4B TREATER	Casper Dewaterer	1949	17,624	<0.5

TK-0563	WWTP	Aux. Fuel Oil	1971	49,378	<0.5
TK-3228	CRUDE STA	Decanted Oil	1948	596,570	<0.5
TK-3234	CRUDE STA	Decanted Oil	1940	858,298	<0.5
TK-3464	BERRY LAKE	Decanted Oil	1957	2,705,472	<0.5
TK-3465	BERRY LAKE	Plant Fuel	1973	3,413,088	<0.5
TK-3468	BERRY LAKE	TGO	1958	3,381,840	<0.5
TK-3491	SO. TK FLD.	Lsho	1992	3,876,768	<0.5
TK-3496	SO. TK FLD.	Distillate	1992	3,876,768	<0.5
TK-3498	SO. TK FLD.	Amoco Premier Diesel [Future Lsfo]	1929	3,373,413	<0.5
TK-3499	SO. TK FLD.	Amoco Premier Diesel [Future Lsfo]	1996	3,870,720	<0.5
TK-3500	SO. TK FLD.	Furnace Oil [Future Hmd]	1996	3,870,720	<0.5
TK-3505	SO. ANNEX	Heater Oil	1949	4,254,768	<0.5
TK-3509	SO. TK FLD.	Furnace Oil	1948	3,381,840	<0.5
TK-3546	SO. TK FLD.	Bronze Dye	1962	16,800	<0.5
TK-3547	SO. TK FLD.	Purple Dye	1962	16,800	<0.5
TK-3548	SO. TK FLD.	Isonox 133	1962	16,800	<0.5
TK3567	--	--	--	17,000	<0.5
TK-3569	MARINE DOCK	DCO	1981	4,796,064	<0.5
TK-3571	MARINE DOCK	HS Resid/Black Oil	1971	5,539,968	>0.5 and <0.75
TK-3572	MARINE DOCK	HS Resid/Black Oil	1971	5,539,968	>0.5 and <0.75
TK-3606	STIGLITZ PK.	Amoco Jet Fuel A [New 1996]	1996	3,701,376	<0.5
TK-3607	STIGLITZ PK.	Amoco Jet Fuel A	1993	3,729,600	<0.5
TK-3609	STIGLITZ PK.	HS Resid	1973	9,652,608	<0.5
TK-3610	STIGLITZ PK.	HS Resid	1973	9,652,608	<0.5
TK-3611	STIGLITZ PK.	HS Resid	1973	8,513,400	<0.5
TK-3613	STIGLITZ PK.	HS Resid	1992	3,876,768	<0.5
TK-3711	IND. TK FLD.	Lcco	1993	2,818,368	<0.5
TK-3712	IND. TK FLD.	Lcco	1945	3,357,600	<0.5
TK-3714	IND. TK FLD.	Distillate/Gas Oil	1999	3,852,576	<0.5
TK-3717	IND. TK FLD.	Fcu Feed Mixed	1943	3,263,190	<0.5
TK-3718	IND. TK FLD.	Gas Oil	1996	3,871,379	<0.5
TK-3719	IND. TK FLD.	Gas Oil	1943	3,357,600	<0.5
TK-3720	IND. TK FLD.	Gas Oil	1946	3,357,600	<0.5
TK-3721	IND. TK FLD.	Gas Oil	1946	3,357,600	<0.5
TK-3722	IND. TK FLD.	Gas Oil	1952	4,227,300	<0.5
TK-3723	IND. TK FLD.	Gas Oil	1954	3,386,880	<0.5
TK-3726	IND. TK FLD.	Amoco Jet Fuel A	1948	857,356	<0.5
TK-3733	IND. TK FLD.	Cru / Bou Distillate Feed	1971	3,383,520	<0.5
TK-3734	IND. TK FLD.	Cru / Bou Distillate Feed	1971	3,383,520	>0.5 and <0.75
TK-3735	IND. TK FLD.	Cru / Bou Distillate Feed	1971	3,411,072	<0.5
TK-3867	SO. TK FLD.	Stadis 450	1967	17,640	<0.5
TK-3868	SO. TK FLD.	Amogard	1953	17,640	>0.5 and <0.75
TK-3869	SO. TK FLD.	Pour Depressant	1956	23,436	<0.5
TK-3872	CRUDE STA	Used Motor Oil	1985	15,120	<0.5
TK-3876	South TF	Cetane Improver	1993	14,381	<0.5
TK-3906	J&L TK FLD.	Lsfo	1956	3,381,840	>0.5 and <0.75
TK-3908	J&L TK FLD.	Amoco Premier Diesel	1956	3,381,840	<0.5
TK-3910	J&L TK FLD.	Furnace Oil [Hs]	1956	3,381,840	<0.5
TK-3913	J&L TK FLD.	Furnace Oil [Ls]	1956	3,402,977	<0.5
TK-6078	ASPHALT	HS Resid/Black Oil	1948	1,931,000	<0.5
TK-6113	ASPHALT	Paving Base	1944	810,600	<0.5
TK-6114	ASPHALT	Paving Base	1944	810,600	<0.5

TK-6125		Paving Base	1998	3108932	<0.5
TK-6126		Paving Base	1999	3,108,000	<0.5
TK-6127		Paving Base	2000	3,108,000	<0.5
TK-6128		Paving Base	1971	3,225,600	<0.5
TK-6129		Paving Base	2005	3,108,000	<0.5
TK-6148		Paving Base	1948	3,108,000	<0.5
TK-6149		Paving Base	1948	3,108,000	<0.5
TK-6150		HS Resid	1986	810,600	<0.5
TK-6153		HS Resid	1979	1,386,000	<0.5
TK-6248	ASPHALT	Low Sul Resid	1973	7,218,928	<0.5
TK-6249	ASPHALT	Low Sul Resid	1973	7,218,928	<0.5
TK-6250	ASPHALT	HS Resid	1971	7,218,928	<0.5
TK-6251	ASPHALT	Paving Base	1971	7,218,928	<0.5
TK-6252	ASPHALT	HS Resid	1972	7,215,268	<0.5
TK-6253	ASPHALT	Paving Base	1971	7,218,928	<0.5
TK-6261	ASPHALT	HS Resid	1973	451,183	<0.5
TK-6262	ASPHALT	HS Resid	1972	451,183	<0.5
TK-0559	ASU	Out of Service	1989	146,869	--
TK-0560	ASU	Out of Service	1948	587,477	--
TK-0568		Out of Service	Before 1973	--	--
TK-3167		Out of Service	1926	3,361,114	--
TK-3168		Out of Service	1926	1,931,170	--
TK-3169		Out of Service	1926	3,361,114	--
TK-3232	CRUDE STA	Out of Service	1940	857,356	--
TK-3259	CRUDE STA	Out of Service	1951	846,720	--
TK-3260	CRUDE STA	Out of Service	1930	375,986	--
TK-2279	MARINE DOCK	LCCO/DCO Line Wash	1951	85,302	--
TK-3309	CRUDE STA	Out of Service	NA	7,050	--
TK-3373		Out of Service	--	--	--
TK-3471	SO. TK FLD.	Out of Service	1973	7,050	--
TK-3485	SO. TK FLD.	Out of Service	1924	3,373,413	--
TK-3494	SO. TK FLD.	Out of Service	1926	3,373,413	--
TK-3497	SO. TK FLD.	Out of Service	1926	3,373,413	--
TK-3506	SO. ANNEX	Out of Service	1936	3,373,413	--
TK-3507	SO. ANNEX	Out of Service	1936	3,373,413	--
TK-3508	SO. ANNEX	Out of Service	1936	3,366,720	--
TK-3603	STIGLITZ PK.	Out of Service	1922	3,084,480	--
TK-3608	STIGLITZ PK.	Out of Service	1954	3,849,300	--
TK-3713	IND. TK FLD.	Out of Service	1944	3,357,600	--
TK-3903	J&L TK FLD.	Out of Service	1956	3,381,840	--
TK-6222		Out of Service	--	3,000	--
TK-6223		Out of Service	--	211,400	--
TK-6224		Out of Service	--	211,400	--
W-306	MWTP	Out of Service	--	--	--

(5) One (1) oil-water separator identified as the J & L Separator.

(6) Leaks from process equipment, including pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(7) Two (2) Off-spec Brine Tanks, constructed as part of WRMP project, with internal floating roofs, identified as:

(A) TK-3559, with a storage capacity of 451,214 gallons
(B) TK-3560 with a storage capacity of 1,015,231 gallons

(8) As part of the WRMP project, BP is repurposing two existing tanks (TK-3911 and TK-3728 or an equivalent tank) to store diluent and two existing tanks (TK-3716 and TK-3475) to store heavy virgin naphtha.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.27.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) and Benzene [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 8-4-8] [326 IAC 14] [40 CFR 61, Subpart J] [326 IAC 12] [40 CFR 60, Subpart GGG][40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems.

(c) Pursuant to 40 CFR 61, Subpart J, the Permittee shall comply with the requirements specified in Section E.5 for leaks of benzene from pumps, pressure relief devices, sampling connection systems, open-ended lines or valves, and valves.

(d) Pursuant to 40 CFR 63.640(p), equipment that is subject to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart J is required only to comply with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(e) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, Oil Movements is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in

VOC service at Oil Movements no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Oil Movements shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGG at Oil Movements (Indiana Tank Field, J & L Tankfield, Lake George Tank Field, Oil Movements Diluent, Oil Movements North, South Tank Field and Stieglitz Park Tank Field) satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

D.27.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) Tank 3703 shall remain inoperative.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, emissions of VOC from the Off-Spec Brine Tanks (TK-3559 & TK-3560) shall not exceed a total of 2.1 tons per rolling 12 month period, with compliance determined at the end of each month.

(c) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.27.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.27.3 Petroleum Liquid Storage Facilities [326 IAC 8-4-3]

Pursuant to 326 IAC 8-4-3(a), the Permittee shall comply with the requirements in this condition for all petroleum liquid storage vessels with capacities greater than 39,000 gallons containing volatile organic compounds whose true vapor pressure is greater than 1.52 psi. Tanks subject to this condition include: 3474, 3475, 3476, 3477, 3480, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3493, 3511, 3512, 3513, 3514, 3525, 3526, 3527, 3528, 3531, 3532, 3533, 3549, 3553, 3554, 3558, 3601, 3605, 3629, 3639, 3641, 3701, 3702, 3704, 3707, 3716, 3728, 3730, 3900, 3904, 3905, 3907, 3909, 3911, 3912, 3914, 3916, 3917, 3918, 3919, 3920, 3492, 3529, 3631, 3637, 3706, 3860, and 3901.

Pursuant to 326 IAC 8-4-3(a), the Permittee shall comply with the following requirements for all petroleum liquid storage vessels with capacities greater than 39,000 gallons containing volatile organic compounds whose true vapor pressure is greater than 1.52 psi.

(a) Pursuant to 326 IAC 8-4-3(b), the Permittee shall not permit the use of an affected fixed roof tank unless:

(1) The tank has been retrofitted with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall unless the source has been retrofitted with equally effective alternate control which has been approved,

(2) The facility is maintained such that there are no visible holes, tears or other opening in the seal or any seal fabric or materials,

(3) All openings, except stub drains, are equipped with covers, lids or seals such that:

(A) the cover, lid or seal is in the closed position at all times except when in actual use;

(B) automatic bleeder vents are closed at all times except when in actual use;

(C) rim vents if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

(b) Pursuant to 326 IAC 8-4-3(c)(1), the Permittee shall not store petroleum liquid in an affected open top tank having a cover consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank wall shall not be used to store volatile organic liquids unless:

(1) The tank has been fitted with:

(A) a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(B) a closure or other device approved by the commissioner which is equally effective.

(2) All seal closure devices meet the following requirements:

(A) there are no visible holes, tears, or other openings in the seal(s) or seal fabric;

(B) the seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall;

(C) for vapor mounted primary seals, the accumulated gap area around the circumference of the secondary seal where a gap exceeding one-eighth (1/8) inch exists between the secondary seal and the tank wall shall not exceed 1.0 square in per foot of tank diameter. There shall be no gaps exceeding one-half (½) inch between the secondary seal and the tank wall of welded tanks and no gaps exceeding one (1) inch between the secondary seal and the tank wall of riveted tanks.

(3) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

(A) equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

(B) equipped with projections into the tank which remain below the liquid surface at all times.

(4) automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(5) rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting ; and

(6) emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least ninety percent (90%) of the opening.

D.27.4 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

Pursuant to 326 IAC 8-9, the Permittee shall comply with the following requirements for storage tanks 2279, 3529, 3901, 3902, 3912, 3477, 3482, 3483, 3492, 3510, 3512, 3513, 3532, 3624, 3631, 3633, 3635, 3639, 3641, 3705, 3706, 3709, 3728, 3730, 3905, 3909, 3914, 3511, 3601, 3480, 3486, 3487, 3525, 3526, 3553, 3554, 3605, 3704, 3533, 3915, 3916, 3917, 3918, 3919, 3920, D-424, F-011, TK-3546, TK-3547, TK-3548, TK-3567, TK-3867, TK-3868, TK-3869, TK-3872, TK-3876, TK-0563, TK-3228, TK-3234, TK-3464, TK-3465, TK-3468, TK-3491, TK-3496, TK-3498, TK-3499, TK-3500, TK-3505, TK-3509, TK-3569, TK-3606, TK-3607, TK-3609, TK-3610, TK-3611, TK-3613, TK-3711, TK-3712, TK-3714, TK-3717, TK-3718, TK-3719, TK-3720, TK-3721, TK-3722, TK-3723, TK-3726, TK-3733, TK-3735, TK-3908, TK-3910, TK-3913, TK-6078, TK-6113, TK-6114, TK-6125, TK-6126, TK-6127, TK-6128, TK-6129, TK-6148, TK-6149, TK-6150, TK-6153, TK-6248, TK-6249, TK-6250, TK-6251, TK-6252, TK-6253, TK-6261, TK-6262, TK-3571, TK-3572, TK-3734, and TK-3906. For Storage tanks 3534, 3602, 3604, 3708, 3727, D-424, F-011, TK-3546, TK-3547, TK-3548, TK-3567, TK-3867, TK-3868, TK-3869, TK-3872, TK-3876, TK-0563, TK-3228, TK-3234, TK-3464, TK-3465, TK-3468, TK-3491, TK-3496, TK-3498, TK-3499, TK-3500, TK-3505, TK-3509, TK-3569, TK-3606, TK-3607, TK-3609, TK-3610, TK-3611, TK-3613, TK-3711, TK-3712, TK-3714, TK-3717, TK-3718, TK-3719, TK-3720, TK-3721, TK-3722, TK-3723, TK-3726, TK-3733, TK-3735, TK-3908, TK-3910, TK-3913, TK-6078, TK-6113, TK-6114, TK-6125, TK-6126, TK-6127, TK-6128, TK-6129, TK-6148, TK-6149, TK-6150, TK-6153, TK-6248, TK-6249, TK-6250, TK-6251, TK-6252, TK-6253, TK-6261, TK-6262, TK-3571, TK-3572, TK-3734, and TK-3906, which are used to store liquids with vapor pressures less than 0.5 psia, the Permittee shall comply only with the recordkeeping and reporting requirements specified in Condition D.27.13(e). For storage tanks 3633, 3635, 3710, 3571, TK-3572, TK-3734, and TK-3906, which are used to store liquids with vapor pressures between 0.5 and 0.75 psia, the Permittee shall comply only with the requirements specified in Condition D.27.13(e) and (i).

(a) Pursuant to 326 IAC 8-9-4(a), the Permittee shall comply with the following requirements for each vessel having a capacity greater than or equal to thirty-nine thousand (39,000) gallons, that stores VOL with a maximum true vapor pressure greater than or equal to seventy-five hundredths (0.75) pound per square inch absolute (psia) but less than eleven and one-tenth (11.1) psia:

(1) On or before May 1, 1996, for each vessel having a permanently affixed roof, the Permittee shall install one (1) of the following:

(A) An internal floating roof meeting the standards in section (b) of this Condition.

(B) An equivalent emissions control system resulting in equivalent emissions reductions to that obtained in paragraph (a)(1)(A).

(2) For each vessel having an internal floating roof, install one (1) of the following:

(A) At the time of the next scheduled cleaning, but not later than ten (10) years after May 1, 1996, an internal floating roof meeting the standards in section (b) of this Condition,

(B) On or before May 1, 1996, an equivalent emissions control system resulting in equivalent emissions reductions to that obtained in paragraph (a)(2)(A).

(3) For each vessel having an external floating roof, install one (1) of the following:

(A) At the time of the next scheduled cleaning, but not later than ten (10) years after May 1, 1996, an external floating roof meeting the standards in section (c) of this Condition.

(B) On or before May 1, 1996, an equivalent emissions control system resulting in equivalent emissions reductions to that obtained in paragraph (a)(3)(A) of this condition.

(b) Pursuant to 326 IAC 8-9-4(c), for each internal floating roof, the Permittee shall comply with the following standards:

(1) The internal floating roof shall float on the liquid surface, but not necessarily in complete contact with it, inside a vessel that has a permanently affixed roof.

(2) The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the vessel is completely emptied or subsequently emptied and refilled.

(3) When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(4) Each internal floating roof shall be equipped with one (1) of the following closure devices between the wall of the vessel and the edge of the internal floating roof:

(A) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mount seal).

(B) Two (2) seals mounted one (1) above the other so that each forms a continuous closure that completely covers the space between the wall of the vessel and the edge of the internal floating roof. The lower seal may be vapor mounted, but both shall be continuous.

(C) A mechanical shoe seal that consists of a metal sheet held vertically against the wall of the vessel by springs or weighted levers and that is connected by braces to the floating roof. A flexible coated fabric, or envelope, spans the annular space between the metal sheet and the floating roof.

(5) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents shall provide a projection below the liquid surface.

(6) Each opening in a noncontact internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover or lid that shall be

maintained in a closed position at all times (with no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(7) Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(8) Rim space vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(9) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least ninety percent (90%) of the opening.

(10) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(c) Pursuant to 326 IAC 8-9-4(e), the Permittee shall comply with the following standards applicable to each external floating roof:

(1) Each external floating roof shall be equipped with a closure device between the wall of the vessel and the roof edge. The closure device shall consist of two (2) seals, one (1) above the other. The lower seal shall be referred to as the primary seal; the upper seal shall be referred to as the secondary seal.

(2) Except as provided in 326 IAC 8-9-5(c)(4), the primary seal shall completely cover the annular space between the edge of the floating roof and vessel wall and shall be either a liquid-mounted seal or a shoe seal.

(3) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the vessel in a continuous fashion except as allowed in 326 IAC 8-9-5(c)(4).

(4) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(5) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal or lid that shall be maintained in a closed position at all times, without visible gap, except when the device is in actual use.

(6) Automatic bleeder vents shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(7) Rim vents shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents shall be gasketed.

(8) Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least ninety percent (90%) of the area of the opening.

(9) The roof shall be floating on the liquid at all times, for example, off the roof leg supports, except when the vessel is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

D.27.5 VOC and HAP Emissions From Storage Vessels [326 IAC 12] [40 CFR 60, Subpart K] [40 CFR 60, Subpart Ka] [40 CFR 60, Subpart Kb] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 40 CFR 60.110a, storage vessels 3480, 3486, 3487, 3525, 3526, 3553, 3554, 3602, 3604, 3704, 3915, 3916, 3917, 3918, 3919, and 3920 are affected facilities under 40 CFR 60, Subpart Ka. Unless otherwise specified in paragraph (d) of this condition, the Permittee shall operate these storage tanks in compliance with the requirements specified in Section E.8. For storage tanks 3602 and 3604, the Permittee shall comply only with the record keeping requirements in Section E.8.

(b) Pursuant to 40 CFR 60.110b, storage vessels 3474, 3475, 3476, 3484, 3488, 3489, 3493, 3514, 3527, 3528, 3531, 3549, 3558, 3600, 3622, 3629, 3701, 3702, 3715, 3716, 3860, 3900, 3904, 3907, TK-3637, and 3911 are affected facilities under 40 CFR 60, Subpart Kb. Unless otherwise specified in paragraph (d) of this condition, the Permittee shall operate these storage tanks in compliance with the requirements specified in Section E.9.

(c) Pursuant to 40 CFR 60.110, storage vessels 3534, 3601, and 3605 are affected facilities under 40 CFR 60, Subpart K. Unless otherwise specified in paragraph (d) of this condition, the Permittee shall operate these storage tanks in compliance with the requirements specified in Section E.7.

(d) Pursuant to 40 CFR 63, Subpart CC,

(1) The Permittee shall comply with the requirements specified in Section E.1, for the following Group I storage vessels: 3477, 3474, 3475, 3476, 3480, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3493, 3510, 3511, 3512, 3513, 3514, 3525, 3526, 3527, 3528, 3529, 3531, 3532, 3534, 3537, 3533, 3553, 3554, 3601, 3605, 3622, 3624, 3629, 3631, 3633, 3635, 3637, 3639, 3641, 3701, 3702, 3704, 3705, 3706, 3707, 3710, 3715, 3716, 3728, 3900, 3901, 3902, 3904, 3905, 3907, 3909, 3911, 3912, 3914, 3915, 3916, 3917, 3918, 3919, and 3920.

(2) Pursuant to 40 CFR 63.640(n)(5), Group 1 storage vessels that are also subject to the provisions of 40 CFR 60, Subparts K or Ka are required to only comply with the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

(3) Pursuant to 40 CFR 63.640(n)(1), Group 1 and Group 2 storage vessels that are also subject to the provisions of 40 CFR Part 60, Subpart Kb, are required to comply only with the requirements of 40 CFR 60, Subpart Kb, except as provided in 40 CFR 63.640(n)(8).

D.27.6 Wastewater/Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC][326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60 Subpart QQQ] [326 IAC 12]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements in Sections E.1 and E.3 for individual drain systems, oil-water separators, and closed vent systems and control devices.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems subject to 40 CFR, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, subpart CC specified in Section E.1.

(d) Pursuant to 40 CFR 63.647 of 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements of 40 CFR 61, Subpart FF, specified in Section E.3, for TK-3559 and TK-3560.

D.27.7 Petroleum Refineries - Separators [326 IAC 8-4-2]

Pursuant to 326 IAC 8-4-2(2), the Permittee shall equip oil-water separators, forebay, and openings in covers with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

D.27.8 NESHAP for Organic Liquid Distribution [40 CFR 63, Subpart EEEE]

Pursuant to 40 CFR 63.2338(b), storage tank D-424 and any equipment at this source that meets the definition of an affected source under 40 CFR 63.2334 shall comply with the requirements of 40 CFR 63, Subpart EEEE, as specified in Section E.24.

D.27.9 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall continue to operate and maintain an internal floating roof on each Off-Spec Brine Tank (TK-3559 and TK-3560) consistent with the requirements of 40 CFR 61.351(a)(1).

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, except for periods when an Off-Spec Brine Tank is out of service, the Permittee shall maintain in each Off-Spec Brine Tank (TK-3559 & TK-3560) a level sufficient to assure that the floating roof remains in contact with the liquid in the tank.

(c) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, using the throughput data collected per Condition D.27.12 and the most recent RVP measurement collected per Condition D.27.12, the Permittee shall use USEPA's "TANKS" model to determine, on a monthly basis, the monthly and rolling 12-month VOC emissions from the Off-Spec Brine Tanks TK-3559 &TK-3560.

Compliance Monitoring Requirements

D.27.10 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

D.27.11 Storage Vessel Inspections [326 IAC 8-9]

(a) Pursuant to 326 IAC 8-9-5(a), the Permittee shall meet the requirements of paragraph (b), (c), or (d) for each vessel subject to 326 IAC 8-9-4(a):

(b) On and after May 1, 1996, except as provided in 326 IAC 8-9-4(a)(2), the Permittee shall meet the following requirements for each vessel equipped with an internal floating roof:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal, if one is in service, prior to filling the vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the Permittee shall repair the items before filling the vessel.

(2) For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal, if one is in service, through manholes and roof hatches on the fixed roof at least once every twelve (12) months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the vessel from service within forty-five (45) days. If a failure that is detected during inspections required in this section cannot be repaired in forty-five (45) days and if the vessel cannot be emptied within forty-five (45) days, a thirty (30) day extension may be requested from the department in the inspection report required in 326 IAC 8-9-6(c)(3). Such a request for an extension shall document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with both primary and secondary seals:

(A) visually inspect the vessel as specified in paragraph (b)(4) of this Condition, at least every five (5) years; or

(B) Visually inspect the vessel as specified in paragraph (b)(2) of this Condition.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal, if one is in service, gaskets, slotted membranes, and sleeve seals each time the vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than ten percent (10%) open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the vessel with VOL.

(5) In no event shall the inspections required by this Condition occur at intervals greater than ten (10) years in the case of vessels conducting the annual visual inspection as specified in paragraphs (b)(2) and (b)(3)(B) of this Condition and at intervals no greater than five (5) years in the case of vessels specified in subdivision (b)(3)(A).

(c) On and after May 1, 1996, except as provided in 326 IAC 8-9-4(a)(3), the Permittee shall meet the following requirements for each vessel equipped with an external floating roof:

(1) Determine the gap areas and maximum gap widths between the primary seal and the wall of the vessel and between the secondary seal and the wall of the vessel according to the following frequency:

(A) Measurements of gaps between the vessel wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within sixty (60) days of the initial fill with VOL and at least once every five (5) years thereafter.

(B) Measurements of gaps between the vessel wall and the secondary seal shall be performed within sixty (60) days of the initial fill with VOL and at least once per year thereafter.

(C) If any source ceases to store VOL for a period of one (1) year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for purposes of paragraph (c)(1) of this Condition.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(A) Measure seal gaps, if any, at one (1) or more floating roof levels when the roof is floating off the roof leg supports.

(B) Measure seal gaps around the entire circumference of the vessel in each place where a one-eighth (1/8) inch diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the vessel and measure the circumferential distance of each such location.

(C) The total surface area of each gap described in paragraph (c)(2)(B) of this Condition shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each by the nominal diameter of the vessel and compare each ratio to the respective standards in paragraph (c)(4) of this Condition.

(4) Make necessary repairs or empty the vessel within forty-five (45) days of identification of seals not meeting the requirements listed in paragraphs (A) and (B) as follows:

(A) The accumulated area of gaps between the vessel wall and the mechanical shoe or liquid-mounted primary seal shall not exceed ten (10) square inches per foot of vessel diameter, and the width of any portion of any gap shall not exceed one and five-tenths (1.5) inches. There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(B) The secondary seal shall meet the following requirements:

(i) The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided in paragraph (c)(2)(C) of this Condition.

(ii) The accumulated area of gaps between the vessel wall and the secondary seal used in combination with a metallic shoe or liquid-mounted primary seal shall not exceed one (1) square inch per foot of vessel diameter, and the width of any portion of any gap shall not exceed five-tenths (0.5) inch. There shall be no gaps between the vessel wall and the secondary seal when used in combination with a vapor-mounted primary seal.

(iii) There shall be no holes, tears, or other openings in the seal or seal fabric.

(C) If a failure that is detected during inspections required in paragraph (c) of this condition cannot be repaired within forty-five (45) days and if the vessel cannot be emptied within forty-five (45) days, a thirty (30) day extension may be requested from the department in the inspection report required in section 6(d)(3) of 326 IAC 8-9. Such extension request shall include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal fabric, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the vessel with VOL.

(d) For each vessel that is equipped with a closed vent system and control device described in 326 IAC 8-9-4(a)(1)(B), (a)(2)(B), or (a)(3)(B) and meeting the requirements of 326 IAC 8-9-4(d), other than a flare, the Permittee shall operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the department in accordance with 326 IAC 8-9-5(d)(1).

(e) For each vessel that is equipped with a closed vent system and a flare to meet the requirements in 326 IAC 8-9-4(a)(4) or (d), the Permittee shall meet the requirements specified in the general control device requirements in 40 CFR 60.18(e) and 40 CFR 60.18(f)

D.27.12 Emissions Monitoring

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, for each of the Off-Spec Brine Tanks (TK-3559 & TK-3560), the Permittee shall:

(a) monitor throughput on a monthly total basis;

(b) sample the material in the tank off the tank's floating suction line and measure the Reid Vapor Pressure (RVP) of any oil layer once per month.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.27.13 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 61, Subpart J, the Permittee shall keep records as specified in Section E.5.

(d) Pursuant to 326 IAC 8-4-3(d), the Permittee shall maintain the following records for storage vessels subject to 326 IAC 8-4-3:

(1) type of petroleum liquid stored,

(2) maximum true vapor pressure to the liquid as stored, and

(3) results of inspections performed on storage vessels.

(e) Pursuant to 326 IAC 8-9-6(b), the Permittee shall maintain, for the life of the vessel, a record of the following for each vessel to which 326 IAC 8-9 applies:

(1) The vessel identification number,

(2) The vessel dimensions,

(3) The vessel capacity, and

(4) A description of the emission control equipment for each vessel described in section 4(a) or 4(b) of 326 IAC 8-9, or a schedule for installation of emission control equipment on vessels described in section 4(a) or 4(b) of 326 IAC 8-9 with a certification that the emission control equipment meets the applicable standards.

(f) Pursuant to 326 IAC 8-9-6(c) the Permittee shall maintain the following records for each vessel equipped with a permanently affixed roof and internal floating roof:

(1) A record of each inspection performed as required by section 5(b)(1) through 5(b)(4) of 326 IAC 8-9. Each record shall identify the following:

(A) The vessel inspected by identification number.

(B) The date the vessel was inspected.

(C) The observed condition of each component of the control equipment, including the following:

(i) Seals

(ii) Internal floating roof.

(iii) Fittings

(2) If any of the conditions described in 326 IAC 8-9-5(b)(2) are detected during the required annual visual inspection, a record that includes the following shall be maintained:

(A) The vessel by identification number.

(B) The nature of the defects.

(C) The date the vessel was emptied or the nature of and date the repair was made.

(3) After each inspection required by 326 IAC 8-9-5(b)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 326 IAC 8-9-5(b)(3)(B) a record that includes the following shall be maintained:

(A) The vessel by identification number.

(B) The reason the vessel did not meet the specifications of 326 IAC 8-9-4(a)(1)(A), 8-9-4(a)(2)(A), or 8-9-5(b) and list each repair made.

(g) Pursuant to 326 IAC 8-9-6(d), the Permittee shall comply with the following record keeping requirements for each vessel equipped with an external floating roof:

(1) Keep a record of each gap measurement performed as required by section 5(c) of 326 IAC 8-9. Each record shall identify the vessel in which the measurement was made and shall contain the following:

(A) The date of measurement.

(B) The raw data obtained in the measurement.

(C) The calculations described in section 5(c)(2) and 5(c)(3) of 326 IAC 8-9.

(2) For each seal gap measurement that detects gaps exceeding the limitations specified in section 5(c) of 326 IAC 8-9, the Permittee shall maintain a record of the following:

(A) The date of measurement.

(B) The raw data obtained in the measurement.

(C) The calculations described in section 5(c)(2) and 5(c)(3) of 326 IAC 8-9.

(D) The date the vessel was emptied or the repairs made and date of repair.

(h) Pursuant to 326 IAC 8-9-6(e), the Permittee shall comply with the following record keeping requirements for any vessel with a closed vent system with a control device:

(1) The Permittee shall maintain records of the following for any vessel equipped with a control device other than a flare:

(A) The operating plan.

(B) Measured values of the parameters monitored according to section 5(d)(2) of 326 IAC 8-9.

(2) The Permittee shall meet the following requirements for any vessel equipped with a closed vent system and a flare:

(A) Keep records of all periods of operation during which the flare pilot flame is absent.

(B) Keep records of measurements required by 40 CFR 60.18(f)(1) through 40 CFR 60.18(f)(5) as required by 40 CFR 60.8.

(i) Pursuant to 326 IAC 8-9-6(g) and (h), the Permittee shall maintain the following records for storage tanks 3633, 3635, 3710, 3571, TK-3572, TK-3734, and TK-3906, which have a design capacity greater than or equal to thirty-nine thousand (39,000) gallons and store a VOL with a maximum true vapor pressure greater than or equal to 0.5 but less than 0.75 pound per square inch absolute (psia):

(1) The type of VOL stored.

(2) The dates of the VOL stored.

(3) For each day of VOL storage, the average stored temperature for VOLs stored above or below the ambient temperature or average ambient temperature for VOLs stored at ambient temperature, and the corresponding maximum true vapor pressure.

(4) The Permittee shall maintain a record and notify the department within thirty (30) days when the maximum true vapor of the liquid exceeds 0.75 psia.

(j) Pursuant to 40 CFR 60, Subpart Ka, the Permittee shall maintain records as specified in Section E.8.

(k) Pursuant to 40 CFR 60, Subpart Kb, the Permittee shall maintain records as specified in Section E.9.

(l) Pursuant to 40 CFR 60, Subpart K, the Permittee shall maintain records as specified in Section E.7.

(m) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall maintain records as specified in Section E.1.

(n) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall keep records as specified in Sections E.1 and E.3.

(o) Pursuant to 40 CFR 60, Subpart QQQ the Permittee shall keep records as specified in Section E.6.

(p) To document compliance with Condition D.27.1(e), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(q) Pursuant to 40 CFR 63, Subpart EEEE, the Permittee shall keep records as specified in Section E.24.

(r) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and to document compliance with Condition D.27.2(e), the Permittee shall record the throughput data and the most recent RVP measurement collected and the USEPA's "TANKS" model output on a monthly basis.

(s) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (d), (e), (f), (g), (h), (i), (p) and (r) of this condition.

D.27.14 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.27.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.27.1(b), the Permittee shall submit reports as specified in Section E.1 and E.4.

(c) Pursuant to 40 CFR 61, Subpart J, and to document the compliance status with Condition D.27.1(c), the Permittee shall submit reports as specified in Section E.5.

(d) Pursuant to 326 IAC 8-9-6(c) and to document the compliance status with Condition D.27.11(b):

(1) If any of the conditions described in 326 IAC 8-9-5(b)(2) are detected during the required annual visual inspection, the Permittee shall furnish a report to the department within (30) days of the inspection. Each report shall identify the following:

(A) The vessel by identification number.

(B) The nature of the defects.

(C) The date the vessel was emptied or the nature of and date the repair was made.

(2) After each inspection required by 326 IAC 8-9-5(b)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 326 IAC 8-9-5(b)(3)(B), the Permittee shall furnish a report to the department within thirty (30) days of the inspection. The report shall identify the following:

(A) The vessel by identification number.

(B) The reason the vessel did not meet the specifications of section 4(a)(1)(A), 4(a)(2)(A), or 5(b) of 326 IAC 8-9 and list each repair made.

(e) Pursuant to 326 IAC 8-9-6(d) and to document the compliance status with Condition D.27.11(e)

(1) Within sixty (60) days of performing the seal gap measurements required by section 5(c)(1) of 326 IAC 8-9, the Permittee shall furnish the department with a report that contains the following:

(A) The date of measurement.

(B) The raw data obtained in the measurement.

(C) The calculations described in section 5(c)(2) and 5(c)(3) of 326 IAC 8-9.

(2) After each seal gap measurement that detects gaps exceeding the limitations specified in section 5(c) of 326 IAC 8-9, the Permittee shall submit a report to the department within thirty (30) days of the inspection. The report shall identify the vessel and contain the following information:

(A) The date of measurement.

(B) The raw data obtained in the measurement.

(C) The calculations described in section 5(c)(2) and 5(c)(3) of 326 IAC 8-9.

(D) The date the vessel was emptied or the repairs made and date of repair.

(f) Pursuant to 326 IAC 8-9-6(e) and to document the compliance status with Condition D.27.4(a), the Permittee shall meet the following requirements for any vessel equipped with a closed vent system and a flare:

(1) Furnish the department with a report containing the measurements required by 40 CFR 60.18(f)(1) through 40 CFR 60.18(f)(5) as required by 40 CFR 60.8. This report shall be submitted within six (6) months of the initial start-up date.

(2) Furnish the department with a semiannual report of all periods recorded under 40 CFR 60.115 in which the pilot flame was absent.

(g) Pursuant to 326 IAC 8-9-5(b)(5) and 326 IAC 8-9-5(c)(6)(B), the Permittee shall notify the department in writing at least thirty (30) days prior to the filling or refilling of each vessel for which an inspection is required by 326 IAC 8-9-5(b)(1) to afford the department the opportunity to have an observer present. If the inspection required by 326 IAC 8-9-5(b)(4) or (c)(6) is not planned and the Permittee could not have known about the inspection thirty (30) days in advance of refilling the vessel, the Permittee shall notify the department at least seven (7) days prior to the refilling of the vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification, including the written documentation, may be made in writing and sent by express mail so that it is received by the department at least seven (7) days prior to the refilling.

(h) The Permittee shall notify the department in writing at least thirty (30) days prior to the filling or refilling of each vessel to afford the department the opportunity to inspect the vessel prior to the filling. If the inspection required by this subdivision is not planned and the Permittee could not have known about the inspection thirty (30) days in advance of refilling the vessel, the Permittee shall notify the department at least seven (7) days prior to the refilling of the vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the department at least seven (7) days prior to the refilling.

(i) Pursuant to 326 IAC 8-9-5(c)(5), the Permittee shall notify the department thirty (30) days in advance of any gap measurements required by 326 IAC 8-9-5(c)(1) to afford the department the opportunity to have an observer present.

(j) Pursuant to 40 CFR 60, Subpart Ka and to document the compliance status with Condition D.27.5(a), the Permittee shall submit reports as specified in Section E.8.

(k) Pursuant to 40 CFR 60, Subpart Kb and to document the compliance status with Condition D.27.5(b), the Permittee shall submit reports as specified in Section E.9.

(l) Pursuant to 40 CFR 60, Subpart K and to document the compliance status with Condition D.27.5(c), the Permittee shall submit reports as specified in Section E.7.

(m) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.27.5(d), the Permittee shall submit reports as specified in Section E.1.

(n) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.27.6(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(o) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.27.6(b), the Permittee shall submit reports as specified in Section E.6.

(p) To document the compliance status with Condition D.27.5(d)(2), the Permittee shall submit the following reports:

Pursuant to 40 CFR 63.654(g)(6), the Permittee shall submit Notification of Compliance Status reports no later than 60 days after the end of the 6-month period after an existing Group 1 storage tank was brought into compliance. The Notification of Compliance Status Report may be combined with the periodic report. The notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

The notifications require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

(q) To document compliance with Condition D.27.1(e), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(r) Pursuant to 40 CFR 63, Subpart EEEE, the Permittee shall submit reports as specified in Section E.24.

(s) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (d), (e), (f), (g), (h), (i) and (p) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.28 FACILITY OPERATION CONDITIONS - Remediation System

Facility Description [326 IAC 2-7-5(14)]:

(bb) The general facility remediation system, identified as Unit 999. Remediation includes multiple well point systems. The well point system extracts groundwater which may have a small hydrocarbon fraction. Depending on the VOC concentration, emissions generated by these systems may be routed to the atmosphere or to a thermal oxidizer. Additionally, one or more systems may route to the same oxidizer. Each system uses a common horizontal vacuum header to collect groundwater through a series of wells, and any entrained air is discharged through a vent at the vacuum pump. Recovered groundwater is then transferred to either a vapor/liquid separation tank or directly to another unit for further processing/treatment. Remediation includes the following emission sources and may also include insignificant activities listed in section A.4 of this permit.

(1) The following well point systems:

Facility I.D.	Installation Date	S/V I.D.	Normal Venting	Controls
J-136	1993	999-01	Vented Separately	Uncontrolled
J-137	1992	999-02	Vented Separately	Uncontrolled
J-138	1991 Extension 1994	999-03	J-138, J-139 and J-140 are vented with D-138 (Vapor/Liquid separation tank)	0.685 mmBTU per hour Thermal Oxidizer ITF
J-139	1981	999-04		
J-140	1981	999-05		
J-141	1988 Extension 1993	999-06	Vented Separately	Uncontrolled
J-156	1968-1970	999-07	Vented Separately	Uncontrolled
J-157	1968-1970	999-08	Vented Separately	Uncontrolled
J-158	1968-1970	999-10	J-158, & J-159 vents are common	Electric Catalytic Oxidizer 600°F min. temp., @ 1,000 scfm
J-159	1968-1970	999-11		
J-160	1968-1970 Extension 1994	999-12	Vented Separately	Electric Catalytic Oxidizer, 600°F min. temp., @ 1,000 acfm
J-161	1992	999-13	Vented Separately	0.685 mmBTU per hour Thermal Oxidizer BLTF
J-162	1996	999-14	Vented Separately	Uncontrolled
J-163	1996	999-15	Vented Separately	Uncontrolled

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.28.1 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2(a) (formerly 326 IAC 6-1-2(a)) (Particulate Matter Limitations for Lake County), particulate matter (PM) emissions from the BLTF and ITF thermal oxidizers shall not exceed 0.03 gr/dscf.

D.28.2 New Source Performance Standards [326 IAC 12] [40 CFR 60, Subpart J]

(a) Pursuant to 40 CFR 60, Subpart J, the Permittee shall comply with the requirements specified in Section E.2 for the BLTF and ITF thermal oxidizers, except as outlined in the

Alternative Monitoring Plan (AMP) incorporated in paragraphs (b) through (e) of this condition.

(b) To demonstrate compliance with paragraph (a) of this condition and as approved by the U.S. EPA on January 9, 2006 and September 7, 2006, the Permittee shall comply with the following alternative compliance requirements for the BLTF and ITF thermal oxidizers:

(1) Upon startup of the ITF Thermal Oxidizer, the Permittee shall conduct initial sampling. The sampling shall consist of monitoring the H_2S content of the combined fuel gas stream prior to the thermal oxidizer once per day for fourteen (14) days. The results of the initial sampling shall be submitted to the U.S. EPA and IDEM, OAQ within fourteen (14) days of completion. The terms and conditions of this AMP may be revised based on the initial sampling data.

(2) The Permittee shall conduct random detector tube sampling at each AMP monitoring location twice per week for a period of six (6) months for a total of fifty-two (52) samples. If the calculated range and variability of the data set is less than 81 ppm H_2S, the Permittee shall comply with the requirements in paragraph (b)(3) of this condition. The Permittee shall submit all test data, including raw measurements and calculated average and variability to the U.S. EPA and IDEM, OAQ within thirty (30) days of the end of each calendar quarter.

(3) The Permittee shall conduct random detector tube sampling at each AMP monitoring location monthly for a period of two calendar quarters. Sampling shall occur randomly each month with a minimum of two (2) weeks between samples. If the calculated range and variability of the data set is less than 81 ppm H_2S, then the Permittee shall comply with the requirements in paragraph (b)(4). The Permittee shall submit all test data, including raw measurements and calculated average and variability, to the U.S. EPA and IDEM, OAQ within thirty (30) days of the end of each calendar quarter.

(4) The Permittee shall continue to conduct testing on a monthly basis at each AMP monitoring location. Testing is to occur randomly once every month with a minimum of two (2) weeks between samples. If any one sample is equal to or greater than 81 ppm H_2S, then the Permittee shall comply with the requirements specified in paragraph (b)(5) of this condition for the affected thermal oxidizer. The Permittee shall submit all test data, including raw measurements, in the periodic report to the U.S. EPA and IDEM, OAQ within thirty (30) days of the end of each semi-annual period.

(5) If, at any time, a single detector tube sample value is equal to or greater than 81 ppm H_2S, the Permittee shall conduct detector tube sampling at the AMP monitoring location on a daily basis for seven (7) days. If the average detector tube result plus three (3) standard deviations for the seven (7) samples is less than 81 ppm H_2S, the Permittee shall submit the date and value of the monitoring event that triggered the additional sampling and the seven (7) day H_2S sample results in a written report submitted within thirty (30) days of the conclusion of the seven (7) day sampling. If the average plus three (3) standard deviations for the seven (7) samples is equal to or greater than 81 ppm H_2S, the Permittee shall comply with the requirements in paragraph (b)(6) of this condition. If the average plus three (3) standard deviations is less than 81 ppm H_2S, the Permittee shall resume the monitoring and reporting in accordance with the monitoring or reporting schedule listed in paragraphs (b)(1) through (4) that resulted in a sample greater than 81 ppm H_2S.

(6) If any sample detector tube data set indicates a potential for the emission limit to be exceeded, as outlined in paragraphs (e) or (b)(5) of this condition, the Permittee shall notify the U.S. EPA and IDEM, OAQ of those results before the end of the next business day following the last day of sample collection. The affected fuel gas stream shall subsequently be tested daily for a two (2) week period. After the two (2) week period is complete, sampling will continue once per week, or until the U.S. EPA approves a revised sampling schedule or makes a determination to withdraw approval of the gas stream/system from the AMP.

(c) The H_2S testing required by paragraph (b) of this condition shall be conducted using detector tubes – length of stain tube-type measurement. The detector tubes used for routine testing shall have a dual range of 1-20 and 10-200 ppm. Detector tubes with a range of 0-500 ppm shall be used for testing if the measured concentration exceeds 100 ppm H_2S.

(d) The monitoring location for the ITF and BLTF Thermal Oxidizers shall be on the fuel gas stream just prior to the thermal oxidizer. Specifically, for the ITF Thermal Oxidizer, the AMP monitoring location shall be after the vapors/gases from the well points J-138, J-139, and J-140 and the vapors from Tank D-138 combine. There shall not be vapors/gases added to the fuel stream after the AMP monitoring location.

(e) Data Range and Variability Calculation and Acceptance Criteria for the AMP: For paragraphs (b)(1) through (6) of this condition, sample range and variability shall be determined by calculating the average plus three (3) standard deviations for that test data set. If the average plus three (3) standard deviations for the test data set is less than 81 ppm H_2S, the sample range and variability are acceptable and the Permittee shall proceed to the next step of the monitoring schedule listed in paragraph (b) of this condition. If the data shows an unacceptable range and variability, the Permittee shall comply with the requirements in paragraph (b)(6) of this condition. If at any time, one detector tube sample is equal to or greater 81 ppm H_2S, the Permittee shall comply with the requirements in paragraph (b)(5).

D.28.3 VOC Emissions [326 IAC 8-7]

(a) The IDEM, OAQ has information that indicates that the remediation units are subject to the requirements of 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties). Therefore, the permit shield provided by Condition B.12 of this permit does not apply to these units with regards to 326 IAC 8-7. Pursuant to 326 IAC 8-7-3, the Permittee shall comply with one of the following three (3) compliance options for remediation system units existing as of May 31, 1995:

(1) Submit documentation demonstrating the Permittee has achieved an overall VOC reduction from baseline actual emissions of at least 98% by installation of an add-on control system in accordance with 326 IAC 8-7-3(1);

(2) If the Permittee can demonstrate that no 98% efficient VOC control technology exists that is both reasonably available and technically and economically feasible, the Permittee shall submit documentation demonstrating that the affected facility will achieve an overall VOC reduction of at least 81% from baseline actual emissions with the installation of an add-on control system in accordance with 326 IAC 8-7-3(2); or

(3) Submit documentation that the Permittee has achieved an alternative overall emission reduction with the application of reasonably available control technology that has been determined to be a reasonably available control

technology by the U.S. EPA and IDEM, OAQ in accordance with 326 IAC 8-7-3(3).

The compliance information shall be submitted within one hundred and eighty (180) days of the effective date of this permit.

(b) IDEM, OAQ will reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 8-7 and a schedule for achieving compliance with such requirements.

D.28.4 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.28.5 National Emissions Standards for Hazardous Air Pollutants for Site Remediation [40 CFR Part 63, Subpart GGGGG]

Pursuant to 40 CFR 63, Subpart GGGGG, the Permittee shall comply with the requirements of Section E.21 for the site remediation activities, including process vents, remediation management units, and other affected equipment.

D.28.6 Wastewater / Waste Streams [326 IAC 14][40 CFR 61, Subpart FF]

Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

D.28.7 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, "fuel oil" shall not be burned in any of the thermal oxidizers associated with the Remediation System.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.28.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.28.2, the Permittee shall maintain records as specified in Section E.2.

(b) To document the compliance status with Condition D.28.5, the Permittee shall maintain records as specified in Section E.21.

(c) Pursuant to 40 CFR 61, Subpart FF and to document the compliance status with Condition D.28.6, the Permittee shall keep records as specified in Section E.3.

D.28.9 Reporting Requirements

(a) To document the compliance status with Condition D.28.2, the Permittee shall submit reports as specified in Section E.2.

(b) To document the compliance status with Condition D.28.5, the Permittee shall submit reports as specified in Section E.21.

(c) Pursuant to 40 CFR 61, Subpart FF and to document the compliance status with Condition D.28.6,the Permittee shall submit reports as specified in Section E.3.

SECTION D.29 FACILITY OPERATION CONDITIONS - Mechanical Shop

Facility Description [326 IAC 2-7-5(14)]:

(cc) The Mechanical Shop, identified as Unit 693. The Mechanical Shop includes the following emission sources and may also include insignificant activities listed in section A.4 of this permit:

(1) Two (2) Heat Treat Furnaces that are considered insignificant sources.

(2) Leaks from facility fuel gas lines.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.29.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, valves, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Mechanical Shop shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Sections E.25 - 40 CFR 60, Subpart GGGa and E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Mechanical Shop no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The Mechanical Shop shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.29.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.29.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance Monitoring Requirements

D.29.3 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.29.4 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.29.1(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.29.1(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) To document compliance with Condition D.29.1(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(d) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.29.5 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.29.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.29.1(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(c) To document compliance with Condition D.29.1(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(d) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.30 FACILITY OPERATION CONDITIONS - Bulk Truck Loading Facility

Facility Description [326 IAC 2-7-5(14)]:

(dd) One bulk truck loading facility, identified as the Marketing Terminal, and consisting of one (1) truck loading rack, constructed in 1972 and modified in 1992, comprised of 7 bays used for loading gasoline products and fuel oil. Four bays are dedicated to loading distillates, while the other three bays are dedicated to loading gasoline products. The maximum throughput for the truck loading facility is 1,103,760,000 gallons per year. Emissions of volatile organic compounds are controlled using a vapor combustion unit (identified as VCU).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.30.1 National Emission Standards for HAPs from Petroleum Refineries and Standards of Performance for Bulk Gasoline Terminals [40 CFR 63, Subpart CC] [326 IAC 20-16] [40 CFR 60, Subpart XX] [326 IAC 12-1]

Pursuant to 40 CFR 60.500 and CFR 63.640(c)(5), the loading rack is an affected facility under 40 CFR 60, Subpart XX and 40 CFR 63, Subpart CC. Pursuant to 40 CFR 63.640(r), the loading rack is required to comply only with the requirements of 40 CFR 63, Subpart CC, which are specified in Sections E.1, E.15, and E.16.

D.30.2 Bulk Gasoline Terminals [326 IAC 8-4-4]

Pursuant to 326 IAC 8-4-4(Bulk Gasoline Terminals), the source shall comply with the following requirements:

(a) The Permittee shall use a vapor collection system which directs all vapors from gasoline tank trucks to a closed flare thermal oxidizer. The vapor control system shall be in good working order and in operation at all times loading operations are being conducted.

(b) Displaced vapors and gases from gasoline tank trucks shall be vented only to the vapor control system.

(c) The source shall provide a means to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.

(d) All loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which will be closed upon disconnection.

(e) If employees of the terminal are not present during loading, it shall be the responsibility of the owner of the transport to make certain the vapor control system is attached to the transport. The owner of the terminal shall take all reasonable steps to ensure that owners of transports loading at the terminal during unsupervised times comply with this requirement.

D.30.3 Leaks from Transports and Vapor Collection Systems [326 IAC 8-4-9]

Pursuant to 326 IAC 8-4-9, the Permittee shall comply with the following requirements:

(a) No gasoline transport that has a capacity of two thousand (2,000) gallons or more shall be filled or emptied unless the owner or operator of the gasoline transport completes the following:

(1) Perform annual leak detection testing before the end of the twelfth calendar month following the previous year's test. The testing shall be performed in accordance with the test procedures contained in Section E.16.

(2) Repairs the gasoline transport if the transport does not meet the criteria in (1), and retests the transport after repairs to prove compliance with the criteria in (1).

Demonstration of compliance with Section E.16 assures compliance with this condition.

(b) The annual compliance test data remain valid until the end of the twelfth calendar month following the test. The owner of the gasoline transport shall be responsible for compliance with the requirements in (a) and shall provide the Permittee with the most recent valid modified 40 CFR 60, Appendix A, Method 27 test results upon request. The Permittee shall take all reasonable steps, including reviewing the test date and tester's signature, to ensure that gasoline transports comply with the requirements in (a). Demonstration of compliance with Section E.16 assures compliance with this condition.

(c) The Permittee shall design and operate the vapor control system and gasoline loading equipment in a manner that prevents:

(1) Gauge pressure from exceeding four thousand five hundred (4,500) pascals (18 inches of H2O) and a vacuum from exceeding one thousand five hundred (1,500) pascals (6 inches of H2O) in the gasoline transport.

(2) Avoidable visible liquid leaks during loading.

(3) Within fifteen (15) days, repair and retest a vapor collection system that exceeds the limits in (1) and (2).

(d) IDEM, OAQ may, at any time, monitor a gasoline transport or vapor control system to confirm continuing compliance with (a) and (c).

(e) The Permittee shall maintain records of all certification testing. The records shall identify the following:

(1) The vapor collection and vapor control system

(2) The date of the test and, if applicable, retest.

(3) The results of the test and, if applicable, the retest.

The records shall be maintained in a legible, readily available condition for at least two (2) years after the date the testing and, if applicable, retesting were completed. The Permittee may comply with the requirements of this paragraph by complying with the requirements of 40 CFR 60.505(e), which are included in Section E.15.

(f) During compliance tests conducted under 326 IAC 3-6 (Stack Testing), the vapor control system shall be tested using 40 CFR 60, Subpart A, Method 21. The threshold for leaks shall be five hundred (500) parts per million methane for bulk gasoline terminals subject to 40 CFR 63, Subpart R. Demonstration of compliance with Section E.16 assures compliance with this condition.

D.30.4 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, valves, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Marketing Terminal is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Bulk Truck Loading Facility no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The Marketing Terminal shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(4) The two consecutive months of monitoring that the Permittee previously conducted for purposes of 40 CFR 60, Subpart GGGa at the Marketing Terminal satisfies the requirement to conduct monitoring of those components for two consecutive months following the initial applicability of 40 CFR 60, Subpart GGGa.

D.30.5 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.30.4, an instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.30.6 Particulate Matter Limitation (PM) [326 IAC 6.8-1-2(b)(3)]

Pursuant to 326 IAC 6.8-1-2(b)(3)(Nonattainment Area Limitations) (formerly 326 IAC 6-1-2(b)(5)), the particulate matter content of natural gas burned in the 1.6 mmBTU per hour boiler shall be limited to 0.01 grains per dry standard cubic foot of natural gas.

D.30.7 Standards for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J]

(a) Pursuant to 40 CFR 60, Subpart J, the Permittee shall comply with the requirements in Section E.2 for the vapor combustion unit.

(b) To demonstrate compliance with paragraph (a) of this condition and as approved by the U.S. EPA on March 22, 2007, Permittee shall comply with the alternative compliance monitoring requirements for the vapor combustion unit.

D.30.8 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, "fuel oil" shall not be burned in the vapor combustion unit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.30.9 Record Keeping Requirements

(a) Pursuant to 40 CFR Part 63, Subpart CC and to comply with the requirements in Condition D.30.1 and D.30.4, the Permittee shall comply with the record keeping requirements specified in Sections E.1 and E.16.

(b) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.30.4(b), the Permittee shall keep records as specified in the LDAR plan.

(c) To document compliance with Condition D.30.4(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(d) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (b) of this condition.

D.30.10 Reporting Requirements

(a) Pursuant to 40 CFR Part 63, Subpart CC and to document the compliance status with the requirements in Condition D.30.1 and D.30.4, the Permittee shall comply with the reporting requirements specified in Sections E.1 and E.16.

(b) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.30.4(b), the Permittee shall submit reports as specified in the LDAR plan.

(c) To document compliance with Condition D.30.4(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(d) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (b) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.31 FACILITY OPERATION CONDITIONS - Cooling Towers

Facility Description [326 IAC 2-7-5(14)]:

(ee) Cooling Towers, including the following:

(1) One (1) cooling tower (identified as Cooling Tower No.6), constructed in 1996, with a maximum capacity of 20,000 gallons of water per minute. Cooling Tower No.6 is located at the No.12 Pipestill.

(2) Cooling Towers (constructed prior to 1980) with controls installed as part of the WRMP project:

Cooling Tower	Recirculation Rate/Make-up rate (gallons/minute)	Control Devices
Cooling Tower 2*	50,000/1,285	high efficiency liquid drift eliminators
Cooling Tower 3	90,000/1,571	high efficiency liquid drift eliminators
Cooling Tower 4	44,000/1,085	high efficiency liquid drift eliminators

* Half of the Cooling Tower 2 modules were controlled prior to the WRMP Project. Contemporaneous to the WRMP Project the other modules will be controlled with high efficiency drift eliminators.

(3) Cooling Towers to be installed as part of the WRMP project:

Cooling Tower 7	22,000/982	high efficiency liquid drift eliminators
Cooling Tower 8	90,000/2956	high efficiency liquid drift eliminators

(4) Existing Cooling Towers affected by the WRMP project:

Cooling Tower 5	41,250/814	high efficiency liquid drift eliminators

(5) Associated heavy liquid pumps, heavy liquid valves, and heavy liquid pressure relief devices.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.31.1 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3]

(a) In order to render 326 IAC 2-3 (Emission Offset) not applicable and pursuant to CP089-4822-00003, issued April 19, 1996, the average concentration of total dissolved solids (TDS) in the water input to Cooling Tower No.6 shall not exceed 3,300 mg/L based on a twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) In order to render 326 IAC 2-3 (Emission Offset) not applicable and pursuant to CP089-4822-00003, issued April 19, 1996, the VOC emissions from Cooling Tower No.6 shall not exceed 0.84 pounds per hour based on a 12 consecutive month average.

Compliance with these limits shall ensure that 326 IAC 2-3 does not apply to Cooling Tower No. 6.

(c) In order to render 326 IAC 2-2 and 326 IAC 2-1.1-5 not applicable, after the installation of the liquid drift eliminators on Cooling Towers 2, 3, 4, after the tie-in of the GOHT to Cooling Tower 5 and the installation of Cooling Towers 7 and 8, the average concentration of total dissolved solids (TDS) of the water in Cooling Towers No. 2, 3, 4, 5, 7, and 8 shall not exceed the following:

Cooling Tower	TDS (mg/L) per twelve (12) consecutive month period
2	1,627
3	1,147
4	1,645
5	1,576
7	1,163
8	1,163

(d) In order to render 326 IAC 2-3 (Emission Offset) not applicable, the VOC emissions from Cooling Tower 5 after tie-in of the GOHT, and from Cooling Towers No. 7 and 8 shall not exceed the following based on a 12 consecutive month average:

Cooling Tower	lb/hr
5	1.8
7	1.0
8	3.9

(e) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.31.3. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the VOC, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for VOC, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.31.2 Wastewater/ Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ] [326 IAC 14] [40 CFR 61, Subpart FF]

(a) Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

D.31.3 Equipment Leaks of Volatile Organic Compounds (VOC) [326 IAC 8-4-8]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from heavy liquid pumps, heavy liquid valves, and heavy liquid pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the

LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for heavy liquid pumps, heavy liquid valves, and heavy liquid pressure relief devices located at the Cooling Towers.

Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.31.4 Operating Requirements

In order to demonstrate compliance with Condition D.31.1(c), the liquid drift eliminators shall be in operation and control PM and PM_{10} from Cooling Towers 2, 3, 4, 5, 7 and 8 at all times that these cooling towers and the fans are in operation, except when the cooling tower fans need to be reversed in accordance with the cooling tower manufacturers' recommendations to prevent physical damage to or malfunction of the tower.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.31.5 Compliance Monitoring Requirements [326 IAC 2-3]

(a) To monitor compliance with Condition D.31.1(a) and (c), the Permittee shall take weekly measurements of the total dissolved solids (TDS) of the water in Cooling Towers No. 2, 3, 4, 6, 7 and 8. If the TDS limitation is exceeded, the Permittee shall perform quantitative water analyses and shall take the remedial action necessary to correct the problem.

(b) To monitor compliance with Condition D.31.1(b) and (d), the Permittee shall visually inspect the water going to Cooling Towers No. 2, 3, 4, 5, 6, 7 and 8 for liquid VOC, including but not limited to the indication of a sheen, at least once per week. If VOC is observed, the Permittee will take the remedial action necessary to correct the problem.

D.31.6 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.31.7 Record Keeping Requirements [326 IAC 2-3]

(a) To document the compliance status with Condition D.31.1(a) and (c), the Permittee shall maintain records of the total dissolved solids (TDS) of the water in Cooling Towers No. 2, 3, 4, 5, 6, 7 and 8 and any remedial actions taken (including the date remedial actions were initiated).

(b) To document the compliance status with Condition D.31.1(b) and (d), the Permittee shall maintain records of the visual inspections required by D.31.5(b) and any remedial actions taken (including the date remedial actions were initiated).

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.31.3(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR Plan.

(d) To document compliance with Condition D.31.3(b), the Permittee shall maintain records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(e) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b) and (c) of this condition.

D.31.8 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.31.3(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(b) To document compliance with Condition D.31.3(b), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(c) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.32 FACILITY OPERATION CONDITIONS - Asphalt Facility

Facility Description [326 IAC 2-7-5(14)]:

(ff) One (1) Asphalt Facility used to store, blend and transfer asphalt products. The facility has six blenders used for loading asphalt into railcars and trucks. Process heaters are used to keep certain tanks at the proper temperature for shipping. This facility includes the following emission sources and may also include insignificant activities listed in section A.4 of this permit:

(1) The following two (2) process heaters:

Process Heater ID	Heat Input Capacity (mmBTU/hr)	Fuel	Control Device
F-1 Asphalt Heater	12	Natural gas	none
F-2 Steiglitz Park Heater	28	Natural gas	none

(2) The following seven (7) asphalt storage tanks used to store volatile organic liquids that have a vapor pressure less than 0.75 psi:

Identification	Storage Capacity (gallons)	Year Constructed
125	3,108,000	1998
126	3,108,000	1999
127	3,108,000	2000
129	3,108,000	2003
150	1,386,000	1986
569	5,544,000	1981
613	8,866,200	1992

(3) The following twenty-four (24) asphalt storage tanks used to store volatile organic liquids that have a vapor pressure less than 0.5 psi.

Identification	Storage Capacity (gallons)	Year Constructed
78	1,814,400	1947
113	810,600	1944
114	810,600	1944
128	3,225,600	1971
148	810,600	1948
149	810,600	1948
153	932,400	1979
222	210,000	1955
223	210,000	1955
224	210,000	1955
225	361,200	1950
248	6,967,800	1973
249	6,967,800	1973
250	6,967,800	1971
251	6,967,800	1971
252	6,967,800	1972
253	6,967,800	1971
261	441,000	1973
262	441,000	1972
468	3,108,000	1956
571	5,040,000	1971

572	5,040,000	1971
609	5,649,000	1973
611	8,513,400	1973

(4) The following five (5) heated vertical storage tanks, each approved for construction in 2007, each with a fixed cone roof, and each in heavy liquid service, storing volatile organic liquids that have a vapor pressure less than 0.0435 psia, and exhausting to the atmosphere or to a biofilter system for odor and opacity control:

Tank ID	Liquid Stored	Date Approved for Construction	Tank Storage Capacity (gallons)	Maximum Throughput (gallons/year)	Vapor Pressure of Liquid at Storage Temperature (psia)	Exhaust ID
TK-3573	Trim Gas Oil	2007	966,000	20,160,000	< 0.0435	TK-3573
TK-3614	Residual Oil and/or Asphalt	2007	14,154,000	141,120,000	< 0.0435	biofilter
TK-3615	Residual Oil and/or Asphalt	2007	14,154,000	141,120,000	< 0.0435	biofilter
TK-3616	Trim Gas Oil	2007	2,268,000	16,800,000	< 0.0435	biofilter
TK-3617	Trim Gas Oil	2007	2,268,000	16,800,000	< 0.0435	biofilter

Under 40 CFR 60, Subpart UU, storage tanks TK-3614 through TK-3617, are each considered an affected facility.

Under 40 CFR 63, Subpart CC, storage tanks TK-3573, TK-3614 through TK-3617 are each considered as Group 2 storage vessels that are part of the existing affected source.

(5) The following heated vertical storage tank, with a fixed cone roof, in heavy liquid service, storing volatile organic liquids that have a vapor pressure less than 0.0435 psia, and exhausting to the atmosphere:

Tank ID	Liquid Stored	Construction Date	Tank Storage Capacity (gallons)	Maximum Throughput (gallons/year)	Vapor Pressure of Liquid at Storage Temperature (psia)	Exhaust ID
TK-3570	Trim Gas Oil	1971	2,730,000	20,160,000	< 0.0435	TK-3570

Under 40 CFR 63, Subpart CC, storage tank TK-3570 is considered as a Group 2 storage vessel that is part of the existing affected source.

(6) one (1) truck loading rack, approved for construction in 2007, comprised of six (6) loading bays used for loading liquid asphalt product, with a total maximum loading capacity of 800,000 tons of asphalt product per year, exhausting to the atmosphere or to a biofilter system for odor control.

(7) one (1) rail car loading rack, approved for construction in 2007, comprised of twenty-eight (28) loading bays used for loading liquid asphalt product, with a total maximum loading capacity of 800,000 tons of asphalt product per year, exhausting to the atmosphere or to a biofilter system for odor control.

(8) Equipment leaks of VOC and HAP from valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges and/or other connectors and heat exchange systems.

Under 40 CFR 60, Subpart GGGa, valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges and/or other connectors in VOC service, are considered part of the existing affected source.

(9) The following five (5) natural gas-fired hot oil heaters, each approved for construction in 2007, and each considered an insignificant activity, as defined in 326 IAC 2-7-1(21)(G)(i)(AA)(aa):

Process Heater ID	Heat Input Capacity (mmBTU/hr)	Fuel	Control Device
F-300	9.9	Natural gas	none
F-400	9.9	Natural gas	none
H-LG-1	9.9	Natural gas	none
H-LG-2	9.9	Natural gas	none
H-LG-3*	9.9	Natural gas	none

*Hot oil heater H-LG-3 will exhaust to a steam generator that will be used to heat rejected loads of asphalt during unloading.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.32.1.1Lake County PM_{10} Emission Limitations [326 IAC 6.8-2-6]

Pursuant to 326 IAC 6.8-2-6 (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the Permittee must comply with the following PM_{10} emission limitations for the Asphalt facility process heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
F-1 Asphalt Heater	0.0075	0.089
F-2 Steiglitz Park Heater	0.0075	0.209

D.32.1.2Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-2-6]

(a) Pursuant to 326 IAC 6.8-2-6 (formerly 326 IAC 6-1-10.1(d)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), the Permittee must comply with the following filterable PM_{10} emission limitations for the Asphalt facility process heaters:

Process Heater	PM_{10} Limit (lbs/mmBTU)	PM_{10} Limit (lbs/hour)
F-1 Asphalt Heater	0.004	0.048
F-2 Steiglitz Park Heater	0.008	0.208

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.32.1.1 as part of the Indiana State Implementation Plan.

(b) Pursuant to 326 IAC 6.8-8 (formerly 326 IAC 6-1-10.1(l)(3)), the Permittee shall operate the emission units listed in paragraph (a) of this condition in accordance with the Continuous Compliance Plan (CCP). Pursuant to 326 IAC 6.8-8-8(c) (formerly 326 IAC 6-10.1-1(u)), the Permittee shall update the CCP as needed, retain a copy of any changes and updates to the CCP onsite, and make the revised CCP available for inspection by IDEM, OAQ. The Permittee shall submit the revised CCP to IDEM, OAQ, within thirty (30) days of the update. If IDEM, OAQ determines that the procedures specified in the plan will not demonstrate compliance with 326 IAC 6.8-8, IDEM, OAQ may require the Permittee to revise the plan.

D.32.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4.1-3]

Pursuant to 326 IAC 7- 4.1-3, the Permittee shall comply with the following sulfur dioxide emission limitations for the Asphalt Facility process heaters:

Process Heater	SO_2 Limit (lbs/mmBTU)	SO_2 Limit (lbs/hour)
F-1 Asphalt Heater	0.033	0.43
F-2 Steiglitz Heater	0.033	0.90

D.32.3 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J]

Pursuant to 40 CFR 60.104(a)(1), the Permittee shall comply with the requirements specified in Section E.2 for the process heaters F-1 and F-2.

D.32.4 NSPS Requirements [326 IAC 12-1] [40 CFR 60, Subpart UU]

Pursuant to the 40 CFR 60.470, the Permittee shall comply with the requirements specified in Section E.17 for storage tanks 125, 126, 127, 129, 150, 569, 613, TK-3614, TK-3615, TK-3616 and TK-3617.

D.32.5 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2(a), the particulate matter emissions from the storage tanks TK-3573, TK-3614 through TK-3617, and TK-3570, the hot oil heaters F-300, F-400, H-LG-1, H-LG-2, and H-LG-3, and the liquid asphalt truck and rail car loading racks shall each be limited to 0.03 grains per dry standard cubic foot.

D.32.6 NESHAP Requirements [40 CFR Part 63, Subpart CC] [326 IAC 20-16]

Pursuant to 40 CFR 63.640, the Permittee shall comply with the requirements specified in Section E.1 for storage tanks TK-3573, TK-3614 through TK-3617, and TK-3570.

D.32.7 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the Asphalt Facility.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Asphalt Facility is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Sections Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Asphalt Facility no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The Asphalt Facility shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.32.8 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.32.7. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.32.9 Natural Gas Usage Limit [326 IAC 2-2] [326 IAC 2-3]

The total natural gas usage shall not exceed 255 million cubic feet per twelve (12) consecutive month period for hot oil heaters F-300, F-400, H-LG-1, H-LG-2, and H-LG-3. Compliance with

this limit shall ensure compliance with the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset).

D.32.10 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Within ninety (90) days after issuance of Part 70 Operating Permit No. T089-6741-00453, or ninety (90) days after initial start-up, whichever is later, a Preventive Maintenance Plan is required for the biofilter system. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.32.11 Operating Requirement

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to SPM 089-15202-00003, issued April 24, 2002, effective June 1, 2003, "fuel oil" shall not be used as fuel in the Steiglitz Park Process Heater F-2, the F-1 Asphalt Heater and hot oil heaters F-300, F-400, H-LG-1, H-LG-2 and H-LG-3.

(b) In order to comply with Condition D.32.4 (40 CFR Part 60, Subpart UU), opacity from storage tanks TK-3614, TK-3615, TK-3616 and TK-3617 shall be controlled by the biofilter system at all times that the storage tanks are in operation.

D.32.12 Compliance Determination Requirement

Pursuant to 326 IAC 7-4.1-3(b)(1) and except as specified in 326 IAC 7-4.1-2(d) and 326 IAC 7-2-1(c)(3), compliance with the sulfur dioxide emission limitations in Condition D.32.2 shall be determined based on the daily average sulfur dioxide emission rate, in pounds per hour.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

D.32.13 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.32.14 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

(a) Pursuant to 326 IAC 8-9-6(a) and (b), the Permittee shall maintain the following information for storage tanks 125, 126, 127, 129, 150, 569, 613, 78, 113, 114, 128, 148, 149, 153, 222, 223, 224, 225, 248, 249, 250, 251, 252, 253, 261, 262, 468, 571, 572, 609, 611, TK-3573, TK-3614 through TK-3617, and TK-3570:

(1) The vessel identification number.

(2) The vessel dimensions.

(3) The vessel capacity.

The Permittee shall maintain records described in (1) through (3) of this condition for the life of the vessel.

(b) Pursuant to 326 IAC 8-9-6(h), the Permittee shall maintain a record and notify IDEM, OAQ within thirty (30) days when the maximum true vapor pressure of the liquid stored in vessels 125, 126, 127, 129, 150, 569, 613, TK-3573, TK--3614 through TK-3617, or TK-3570 exceeds seventy-five hundredths (0.75) psia.

D.32.15 Record Keeping Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(1)(A) and to document the compliance status with Conditions D.32.2, and D.32.11, the Permittee shall maintain a daily record of the following for the F-1 and F-2 process heaters:

(1) fuel type,
(2) average daily sulfur content for each fuel type,
(3) average daily fuel gravity for each fuel type,
(4) total daily fuel usage for each type, and
(5) heat content of each fuel type.

(b) Pursuant to 326 IAC 6.8-8-7 (formerly 326 IAC 6-1-10.1(n)(5)) and to document the compliance status with Condition D.32.1, the Permittee shall maintain records for the Asphalt Heater F-1 and the Steiglitz Park Heater F-2 as specified in the Continuous Compliance Plan.

(c) Pursuant to 40 CFR 60, Subpart J and to document the compliance status with Condition D.32.3, the Permittee shall maintain records as specified in Section E.2.

(d) Pursuant to 40 CFR 60, Subpart UU and to document the compliance status with Condition D.32.4, the Permittee shall maintain records as specified in Section E.17.

(e) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.32.6, the Permittee shall keep records as specified in Section E.1.

(f) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.32.7(b), the Permittee shall keep records as specified in Sections E.1, E.25 and E.26.

(g) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.32.7(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(h) To document the compliance status with Condition D.32.9, the Permittee shall record the total natural gas usage for hot oil heaters F-300, F-400, H-LG-1, H-LG-2, and H-LG-3 on a monthly basis;

(i) To document compliance with Condition D.32.7(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(j) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (g) and (i) of this condition.

D.32.16 Reporting Requirements

(a) Pursuant to 326 IAC 7-4.1-3(b)(2) and to document the compliance status with Conditions D.32.2 and D.32.12, the Permittee shall submit a report to IDEM, OAQ department not later than thirty (30) days after the end of each calendar quarter containing the average daily sulfur dioxide emission rate, for the F-1 Asphalt Heater and F-2 Steiglitz Heater.

(b) Pursuant to 40 CFR 60, Subpart J and to document the compliance status with Condition D.32.3, the Permittee shall submit to IDEM, OAQ the reports specified in Section E.2.

(c) Pursuant to 40 CFR 60, Subpart UU and to document the compliance status with Condition D.32.4, the Permittee shall submit to IDEM, OAQ the reports specified in Section E.17.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.32.6, the Permittee shall submit reports as specified in Section E.1.

(e) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.32.7(b), the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.1, E.25 and E.26.

(f) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.32.7(a), the Permittee shall submit reports as specified in the LDAR plan.

(g) A quarterly summary of the information to document the compliance status with Condition D.32.9 shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(h) To document compliance with Condition D.32.7(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(i) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a) and (f) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.33 FACILITY OPERATION CONDITIONS - Cogen Steam Transfer Line

Facility Description [326 IAC 2-7-5(14)]:

(gg) One (1) pipeline (Cogen Steam Transfer Line) connecting BP's boilers (identified as emission units 501 and 503) with Whiting Clean Energy's heat recovery steam operator. The pipeline is used to exchange steam between the two facilities. The pipeline was constructed in 2001.

(hh) One (1) pipeline (US Steel Stream Transfer Line) connecting BP's steam header with US Steel East Chicago (Plant ID #089-00300). This pipeline was constructed 2005 through 2006 and is used to transfer steam from BP to US Steel.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.33.1 Operational Limits

Pursuant to MSM 089-14239-00003, issued May 11, 2001, Joint Agreement Stay Cause No. 01-A-J-2731, issued May 20, 2003, and Administrative Amendment 089-21879-00003, issued November 18, 2005, the Permittee shall comply with the following requirements:

(a) The maximum amount of steam BP shall accept from Whiting Clean Energy is 13,200 tons per day. The maximum amount of steam BP shall supply to Whiting Clean Energy and US Steel is 8,400 tons per day. In all cases, the net steam flow over any 365 day period, from Whiting Clean Energy to BP shall be positive.

(b) The amount of steam BP accepts from Whiting Clean Energy plus the amount of steam produced from units 501 and 503 shall not exceed 34,560 tons per day.

Compliance with these limitations makes the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the installation of the pipeline.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.33.2 Recordkeeping Requirements

Pursuant to MSM 089-14239-00003, issued May 11, 2001 and the Joint Agreement Stay Cause No. 01-A-J-2731, issued May 20, 2003, and Administrative Amendment 089-21879-00003, issued November 18, 2005 and to document the compliance status with Condition D.33.1, the Permittee shall maintain the following records:

(a) Records of the average annual net flow rate from Whiting Clean Energy to BP, computed on a rolling 365-day basis;

(b) Records of the amount of steam produced by units 501 and 503 each day;

(c) Records of the amount of steam BP accepts from Whiting Clean Energy each day; and

(d) Records of the amount of steam BP supplies to Whiting Clean Energy and US Steel each day.

Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

D.33.3 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.33.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.34 FACILITY OPERATION CONDITIONS - Marine Dock Facility

Facility Description [326 IAC 2-7-5(14)]:

(ii) One (1) Marine Dock Facility used to store and transfer products. The facility has three dock berths. A process heater is used to keep certain tanks at the proper temperature for shipping. As a contemporaneous project to the WRMP Project, gasoline loading at the Marine Dock Facility will cease. This facility includes the following emission sources and may include insignificant activities listed in Section A.4 of this permit:

(1) One (1) natural gas-fired process heater (identified as Marine Dock Heater F-100), having a maximum heat input capacity of 7 mmBTU per hour.

(2) One (1) storage tank (identified as BT-1), constructed in 1990, with a maximum storage capacity of 706,000 gallons and used to store petroleum hydrocarbons with a vapor pressure less than 15 psia. The tank is equipped with a fixed roof and an internal floating roof.

(3) One storage tank (BT-2), constructed in 1968, permitted for modification per SPM 089-25488-00453, with a maximum storage capacity of 874,944 gallons, used to store petroleum hydrocarbons with a vapor pressure less than 15 psia, with a fixed roof and an internal floating roof.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.34.1.1 Lake County PM_{10} Emission Limitations [326 IAC 6.8-3-6]

Pursuant to 326 IAC 6.8-2-6(b) (as published in the Indiana Register, Document Identification Number (DIN): 20080220-IR-32604279FRA, on February 20, 2008), the F-100 marine docks distillate heater shall have the following emission limits:

(a) Only natural gas shall be burned as fuel; and

(b) The PM_{10} emissions shall not exceed 0.0075 pounds per million Btu heat input and 0.052 pounds per hour.

D.34.1.2 Lake County PM_{10} (Filterable) Emission Limitations [326 IAC 6.8-3-6]

Pursuant to 326 IAC 6.8-6-3 (formerly 326 IAC 6-1-10.1(h)) (as published in the Indiana Register, 28 IR 3508, on September 1, 2005), the Permittee shall comply with the following requirements for process heater F-100:

(a) Only natural gas shall be burned as fuel; and

(b) The filterable PM_{10} emissions shall not exceed 0.003 pounds per million Btu heat input and 0.020 pounds per hour.

These filterable PM_{10} emission limitations shall be in effect until U.S. EPA approves the revised version of 326 IAC 6.8 specified in D.1.1.1 as part of the Indiana State Implementation Plan.

D.34.2 Emission Offset [326 IAC 2-3] Minor Limit

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following limits for gasoline loading operations at the marine loading dock:

(a) Pursuant to SSM 089-32033-00453, after completion of the WRMP project, gasoline loading at the marine dock shall be permanently ceased.

(b) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.34.4. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the operational limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for VOCand CO for the WRMP project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

D.34.3 Wastewater/Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems and oil-water separators.

(b) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for wastewater tanks for storage tanks BT-1 and BT-2.

(c) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(d) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.34.4 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) and Benzene [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 8-4-8] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAPs from pumps, valves, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Marine Dock shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Marine Dock no later than one year from the "Date of Entry" of the Consent Decree entered in Civil No. 2:12-CV-00207.

(2) The Marine Dock shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.34.5 Standards for Marine Tank Loading [326 IAC 20-17] [40 CFR 63, Subpart Y] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC and Y, the Permittee shall comply with the requirements specified in Section E.1 and E.12 for the Marine Dock Facility.

D.34.6 Petroleum Liquid Storage Facilities [326 IAC 8-4-3]

Pursuant to 326 IAC 8-4-3(b), the Permittee shall not permit the storage of a VOC with a true vapor pressure greater than 1.52 psia (10.5 kPa) in a fixed roof tank with a capacity greater than 39,000 gallons unless:

(a) The tank has been retrofitted with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall unless the source has been retrofitted with equally effective alternate control which has been approved,

(b) The facility is maintained such that there are no visible holes, tears or other opening in the seal or any seal fabric or materials,

(c) All openings, except stub drains, are equipped with covers, lids or seals such that:

(1) the cover, lid or seal is in the closed position at all times except when in actual use;

(2) automatic bleeder vents are closed at all times except when in actual use;

(3) rim vents if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

Compliance Determination Requirements

D.34.7 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and pursuant to SSM 089-14630-00003, issued on November 30, 2001, "fuel oil" shall not be used as fuel for process heater F-100, effective June 1, 2003.

D.34.8 Operating Requirement

Pursuant to SSM 089-32033-00453, after cessation of gasoline loading as required by Condition D.34.2(a), naphthas, finished gasoline products, and gasoline blendstocks having a Reid Vapor Pressure of 4.0 psia or greater, shall no longer be loaded at the marine dock.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.34.9 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.34.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.34.7 the Permittee shall maintain records of the type of fuel burned in Process Heater F-100.

(b) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.34.4(a), the Permittee shall comply with the record keeping requirements in the LDAR Plan.

(c) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.34.4(b), the Permittee shall comply with the record keeping requirements in Sections E.1 and E.4.

(d) Pursuant to 326 IAC 8-4-3(d) and to document the compliance status with Condition D.34.6, the Permittee shall maintain the following records for storage tanks BT-1 and BT-002:

(1) The type of petroleum liquid stored;

(2) The maximum true vapor pressure to the liquid as stored; and

(3) The results of inspections performed on the storage vessel.

(e) Pursuant to 40 CFR 60, Subpart QQQ, 40 CFR 63, Subparts CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.34.3, the Permittee shall maintain records of as specified in Sections E.1, E.3, and E.6.

(f) Pursuant to 40 CFR 63, Subparts CC and Y and to document compliance with Condition D.34.5, the Permittee shall maintain records of as specified in Sections E.1 and E.12.

(g) In order to document the compliance status with Condition D.34.2, the Permittee shall maintain records of the Reid Vapor Pressure of each material loaded at the marine loading dock.

(h) To document compliance with Condition D.34.4(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(i) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (d) and (g) of this condition.

D.34.11 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.34.4(a), the Permittee shall comply with the reporting requirements in the LDAR Plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.34.4(b), the Permittee shall comply with the reporting requirements specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 60, Subpart QQQ, 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.34.3, the Permittee shall submit reports as specified in Sections E.1, E.3 and E.6.

(d) Pursuant to 40 CFR 63, Subparts CC and Y and to document the compliance status with Condition D.34.5, the Permittee shall submit reports as specified in Sections E.1 and E.12.

(e) To document compliance with Condition D.34.4(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.35 FACILITY OPERATION CONDITIONS – Hydrocarbon Flares

Facility Description [326 IAC 2-7-5(14)]:

(jj) The refinery operates ten hydrocarbon flares. The PIB flare is operated by INEOS. The flares are used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance.

The flares are identified as follows:

Flare	Stack ID.	Date of Installation	Dimensions	Process Units Normally Controlled by the Flare System *	Maximum Capacity (mmBTU/hr)	Flare Gas Recovery System (FGRS) ID	Pilot Fuel Type
4UF Flare***	224-06	1972	H = 200 ft, D = 2.5 ft.	ARU, CFU, BOU, 4UF	15,000	FGRS4**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
FCU flare***	230-02	1945	H = 200 ft. D = 2.0 ft.	FCU 600	5620	FGRS3**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
UIU Flare***	220-04	1958	H = 199.5 ft. D = 2.5 ft.	ISOM, 3UF, 2TP, CRU	7550	FGRS4**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
VRU Flare***	241-01	Unknown	H = 200 ft. D = 2.0 ft.	VRU 100,VRU200, VRU 300, FCU 500	1596	FGRS3**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
Alky Flare***	140-01	1961	H = 199.5 ft D = 2.5 ft.	PCU, Alky	3920	FGRS3**** (installed as part of the FGR Project)	Fuel Gas and Natural Gas
SRU Flare	162-03	1971	H = 300 ft. D = 1.5 ft.	SRU	688	none	Fuel Gas and Natural Gas
DDU Flare	698-02	1993	H = 200 ft. D = 1.5 ft.	DDU, HU, Coker, DHT	6000	none	Fuel Gas and Natural Gas
LPG Flare	604-01	1986	H = 50 ft. D = 1.2 ft.	LPG storage vessels and loading facilities	30	none	LPG
PIB Flare**	2	1982	H = 250 ft. D = 3.0 ft.	RGP/PGP Loading Rack	540,000 lb/hr	none	Fuel Gas and Natural Gas
GOHT Flare***	802-03	Installed as Part of WRMP	H = 316 ft. D = 5 ft	GOHT	N/A	FGRS2 (installed as part of WRMP)	Natural Gas
South Flare***	800-04	Installed as Part of WRMP	H = 350 ft. D = 6 ft	New Coker (#2 Coker), 12PS, Sulfur Recovery Complex, VRU 300	N/A	FGRS1 (installed as part of WRMP)	Natural Gas

* - During emergencies or flare outages, some emission units or streams may be controlled by an alternate flare system that complies with the same applicable requirements as the flare normally used to control the emissions for those units.
**** -** Owned and operated by INEOS USA, LLC. (Plant I.D. 089-00076).
*** - Flares are equipped with a flare gas recovery system. Under normal operation the recovered gas streams will be utilized in the refinery fuel gas system.
**** - Note that FGRS3 and FGRS4 are cross connected via a tie-line, to maximize gas recovery and use of available compressor capacity as needed.

Additionally, the following emission units are associated with the flare gas recovery systems: Associated valves, pumps, compressors (FGRS 1: K-103A and K-103B; FGRS 2: K-946A and K-946B; FGRS 3: K-281, K-282, K-283, and K-284; FGRS 4: K-291, K-292, and K-293), pressure relief devices, sampling connection systems, open ended lines or valves, flanges or other connectors, instrumentation, and sewer components.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.35.1 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the GOHT Flare and the South Flare:

(a) The emissions of NO_X shall not exceed 100 pounds per million cubic feet and 0.068 pounds per million BTU of pilot and purge gas burned.

(b) The emissions of VOC shall not exceed 5.5 pounds per million cubic feet and 0.14 pounds per million BTU of pilot and purge gas burned.

(c) The emissions of CO shall not exceed 84 pounds per million cubic feet and 0.37 pounds per million BTU of pilot and purge gas burned.

(d) The emissions of SO_2 shall not exceed 0.6 pounds per million cubic feet of pilot gas burned.

(e) The emissions of SO_2 shall not exceed 0.6 pounds per million cubic feet of purge gas burned.

(f) The emissions of PM and PM-10 each shall not exceed 7.6 pounds per million cubic feet of pilot and purge gas burned.

(g) The Permittee shall comply with the following fuel usage limits:

Flare ID	Fuel Usage Limit (10^3 cubic feet per 12 consecutive month period)
GOHT-pilot	3,679.2
GOHT-purge	37,374
South flare-pilot	3,679.2
South flare-purge	42,198

(h) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

(i) Pursuant to SSM 089-32033-00453, the Permittee shall use only natural gas for pilot and purge gas for the GOHT and South Flares.

Compliance with the fuel usage limits and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.35.2 Standards for Miscellaneous Process Vents [326 IAC 20-16-1][40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the FCU, 4UF, UIU, VRU, GOHT, South and Alky flares relating to the control of process vents.

D.35.3 Equipment Leaks of Benzene [326 IAC 14][40 CFR 61, Subpart J]

Pursuant to 40 CFR 61, Subpart J, the Permittee shall comply with the requirements specified in Section E.5 for control device standards for the FCU, VRU, Alky, 4UF and UIU Flares.

D.35.4 Equipment Leaks of VOC [326 IAC 12][40 CFR 60, Subpart GGGa]

(a) Pursuant to 40 CFR 60, Subpart GGGa, the Permittee shall comply with the control device standards specified in Section E.25 for the 4UF, FCU, UIU, VRU, Alky, SRU, DDU, GOHT and South flares.

(b) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall comply with the control device standards pursuant to 40 CFR 60, Subpart GGGa, specified in Section E.25, for the LPG flare.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the South & GOHT Flare Gas Recovery Systems are affected facilities pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the South & GOHT flare gas recovery systems no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(d) FGRS1 compressors K-103A and K-103B, FGRS2 compressors K-946A and K-946B, FGRS3 compressors K-281, K-282, K-283, and K-284, and FGRS4 compressors K-291, K-292, and K-293 are affected facilities pursuant to 40 CFR 60, Subpart GGGa, and the Permittee shall comply with the requirements specified in Sections E.25 and E.26 for equipment leaks of VOC from compressors K-103A, K-103B, K-281, K-282, K-283, K-284, K-291, K-292, K-293, K-946A and K946B.

(e) Pursuant to 40 CFR 60, Subpart GGGa, at FGRS3 and FGRS4 the Permittee shall comply with the requirements specified in Sections E.25 and E.26 for equipment leaks of

VOC from each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service.

D.35.5 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J]

(a) Pursuant to 40 CFR 60, Subpart J, the Permittee shall comply with the requirements specified in Section E.2 for the DDU Flare, and LPG Flare, except as specified in paragraph (b).

(b) To demonstrate compliance with paragraph (a) of this condition, the Permittee shall operate the LPG Flare in compliance with the approved alternative monitoring requirements in Condition D.35.6 .

D.35.6 Compliance Monitoring Requirements for the LPG Flare [326 IAC 12] [40 CFR 60, Subpart J]

The Permittee shall comply with the following alternative compliance monitoring requirements for the LPG Flare:

(a) The Permittee shall burn only certified commercial grade LPG in the LPG Flare.

(b) On May 13, 2004, the Permittee completed a detection tube sampling and analysis of the gas stored at the LPG storage facilities and determined that the total sulfur content of the gas is 34 ppm. No further testing is required.

(c) If the gas stream composition changes or if the gas stream will no longer be required to meet product or pipeline specifications, then the gas stream must be resubmitted for approval.

D.35.7 Operating Requirements for the Flares

The Permittee may route emissions to an alternate flare during emergencies or flare outages. The alternative flare shall be in compliance with the same requirements applicable to the flare normally used to control the emissions, except in cases of emergencies or malfunctions. Use of a flare as part of normal operation, which is not in compliance with the same applicable requirements as the flare normally used to control emissions, shall require prior approval by IDEM, OAQ.

D.35.8 NESHAP for Petroleum Refineries [40 CFR 63, Subpart UUU]

Pursuant to 40 CFR 63, Subpart UUU, the Permittee shall comply with the requirements specified in Section E.10 for the FCU, VRU, Alky, 4UF and UIU flares.

D.35.9 Wastewater/ Waste Streams [326 IAC 12] [40 CFR 60, Subpart QQQ][326 IAC 14][40 CFR 61, Subpart FF][326 IAC 20-16-1][40 CFR 63, Subpart CC]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, Subpart CC and 40 CFR 60, Subpart QQQ is required only to comply with the provisions of 40 CFR 63, Subpart CC, as specified in Section E.1.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.35.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.35.2, pursuant to 40 CFR 63, Subpart CC, the Permittee shall maintain the records as specified in Section E.1.

(b) Pursuant to 40 CFR 61, Subpart J and to document the compliance status with Condition D.35.3, the Permittee shall keep records as specified in Section E.5.

(c) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.35.4, the Permittee shall maintain the records as specified in Section E.25.

(d) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.35.5 and D.35.12 Paragraphs 69 and 70, the Permittee shall keep records as specified in Sections E.2 and E.18.

(e) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.35.8, the Permittee shall keep records as specified in Section E.10.

(f) In order to document the compliance status with Condition D.35.1(g), the Permittee shall maintain records of fuel usages at the GOHT and South flares.

(g) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 61, Subpart FF, and 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.35.9, the Permittee shall keep records as specified in Sections E.1, E.3, and E.6.

(h) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (f) of this condition.

D.35.11 Reporting Requirements

(a) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.35.2, the Permittee shall submit reports as specified in Section E.1.

(b) Pursuant to 40 CFR 61, Subpart J and to document the compliance status with Condition D.35.3, the Permittee shall submit reports as specified in Section E.5.

(c) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.35.4, the Permittee shall submit reports as specified in Section E.25.

(d) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.35.5 and D.35.12 Paragraphs 69 and 70, the Permittee shall submit to IDEM, OAQ the reports specified in Sections E.2 and E.18.

(e) Pursuant to 40 CFR 63, Subpart UUU and to document the compliance status with Condition D.35.8, the Permittee shall submit to IDEM, OAQ the reports specified in Section E.10.

(f) In order to document the compliance status with Condition D.35.1, the Permittee shall submit quarterly reports for pilot gas and purge gas usages at the GOHT and South flares.

(g) Pursuant to 40 CFR 63, Subpart CC, 40 CFR 61, Subpart FF, and 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.35.9, the Permittee shall submit reports as specified in Sections E.1, E.3, and E.6.

(h) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (f) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

D.35.12 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall comply with the following Paragraphs of the Consent Decree: (As specified by Consent Decree entered in Civil No. 2:12-CV-00207, in each of the following paragraphs, "Covered Flare" shall mean each of the following Elevated, Steam-Assisted Flares at the Refinery: VRU Flare, FCU Flare, Alky Flare, 4UF Flare, UIU Flare, South Flare, GOHT Flare and the DDU Flare.)

B. Instrumentation and Monitoring Systems for Covered Flares

6. Installation and Operation of Monitoring Systems.

a. By no later than startup of the South Flare, and December 31, 2013 for all other Covered Flares, BPP shall have completed the installation and commenced the operation of the instrumentation, controls, and monitoring systems set forth in Paragraphs 7 - 13.

b. BPP may elect to re-position or upgrade the existing Panametric flow meters on the DDU, VRU, FCU, Alky, 4UF and UIU Flares in order to meet the accuracy requirement in Appendix FLR-11. BPP shall complete any such upgrades or re-positioning by December 31st of the following years:

Covered Flare	Re-position or Upgrade Panametric Flow Meter
DDU	2014
FCU	2014
VRU	2015
Alky	2016
4UF	2016
UIU	2017

7. Vent Gas Flow Monitoring System. By means of this system, BPP shall determine the Vent Gas Volumetric and Mass Flow Rates at each Covered Flare. This system shall:

a. Continuously measure the total flow, in scfm or pounds per hour, of the gas flowing through it;

b. Continuously analyze pressure and temperature at each point of flow measurement;

c. Have dual channel measurement at each point of flow measurement for flow meters using an ultrasonic flow measurement method; and

d. Have retractable or removable sensors at each point of flow measurement to ensure that the flow meter is maintainable online.

Prior to any necessary relocation of the Panametrics flow meter pursuant to Paragraph 6, the Vent Gas Flow Monitoring System shall consist of (1) an ultrasonic flow meter that is measuring the flow of gas in the header prior to the flare stack but after any installed flare stack (after all addition of Waste Gas from process units) or in the flare stack; (2) a flow meter measuring any Supplemental Gas that may be supplied to the flare stack and that is not already measured by the ultrasonic flow meter; and (3) a flow meter measuring any Purge Gas that may be supplied to the flare stack and that is not already measured by the ultrasonic flow meter. After the relocation of

the ultrasonic flow meter pursuant to Paragraph 6, the Vent Gas Flow Monitoring System shall consist of (1) an ultrasonic flow meter that is measuring the flow of gas in the header prior to the water seal and after any FGRS; (2) a flow meter measuring any Supplemental Gas that may be supplied to the flare stack and that is not already measured by the ultrasonic flow meter; and (3) a flow meter measuring any Purge Gas that may be supplied to the flare stack and that is not already measured by the ultrasonic flow meter. In all cases, the system, in its complete configuration, shall accurately measure Volumetric Vent Gas Flow Rate as defined by this Appendix.

8. Vent Gas Average Molecular Weight Analyzer. By means of this system, BPP shall determine the average Molecular Weight of the Vent Gas at each Covered Flare. BPP shall utilize the molecular weight analyzer in the ultrasonic flow meter at each Covered Flare to determine the molecular weight of the gas flowing to each such flow meter. BPP shall assume a constant molecular weight for the Purge Gas and Supplemental Gas that is representative of the molecular weight of natural gas supplied from the local gas company (NIPSCO) at each Covered Flare.

9. Total Steam Flow Monitoring System. This system shall:

    a. Continuously measure the flow, in scfm and pounds per hour, of the Total Steam to the Covered Flare; and

    b. Continuously analyze the pressure and temperature of steam at a representative point of steam flow measurement.

10. Steam Control Equipment. This equipment, including, as necessary, main and trim control valves and piping, shall enable BPP to control steam flow in a manner sufficient to ensure compliance with this Decree.

11. Gas Chromatograph (“GC”). This instrument shall be capable of speciating the gas constituents set forth in Appendix FLR-10. For all constituents except Hydrogen Sulfide (“H2S”), the GC shall measure the concentration on a mole percent (“mol/mol%”) basis; for H2S, the GC shall measure the concentration on a parts per million volume basis (“ppmv”).

12. Meteorologic Station or “Met Station” (for the Refinery, not each Covered Flare). This station shall include meteorologic data instruments capable of measuring wind speed. The station shall be located in the refinery at Gate 36.

13. Video Camera. This instrument shall record, in digital format, the flame of, and any Smoke Emissions and/or Wake Dominated Flow from, each Covered Flare.

15. Instrumentation and Monitoring Systems: Specifications. The instrumentation and monitoring systems identified in Paragraphs 7 – 9 and 11 - 12 shall meet or exceed the specifications set forth in Appendix FLR-11.

16. Instrumentation and Monitoring Systems: Recording and Averaging Times. The instrumentation and monitoring systems identified in Paragraphs 7 – 9 and 11 - 13 shall be able to produce and record data measurements and calculations for each parameter at the following time intervals:

Instrumentation and Monitoring System	Recording and Averaging Times
Vent Gas Flow; Vent Gas Average Molecular Weight; Total Steam Flow; Pilot Gas Flow (if installed)	Measure continuously and record 5 minute block averages
Gas Chromatograph	Measure no less than once every 15 minutes and record that value
Wind Speed	Measure continuously and record 5 minute block averages
Video Camera	Record at a rate of no less than 4 frames per minute

17. Instrumentation and Monitoring Systems: Operation and Maintenance. BPP shall operate each of the instruments and monitoring systems required in Paragraphs 7 - 9, 11 - 13, and 42.a and 42.b on a continuous basis except for the following periods:

    a. Malfunction of an instrument and/or monitoring system;

    b. Maintenance following instrument Malfunction;

    c. Scheduled maintenance of an instrument in accordance with the manufacturer's recommended schedule;

    d. Quality Assurance/Quality Control activities; and/or

    e. When the Covered Flare that the instrument or monitoring system is associated with is not in service.

    Provided however, that in no event shall the excepted activities in Subparagraphs 17.a—17.c for any instrument exceed 110 hours in any calendar quarter. The calculation of instrument downtime shall be made in accordance with 40 C.F.R. § 60.13(h)(2) and Paragraph VI of Appendix FLR-11. If the excepted activities in Subparagraphs 17.a—17.c exceed 110 hours in any calendar quarter, EPA shall be entitled to seek stipulated penalties under Paragraph 150.j of Part X ("Stipulated Penalties") and BPP shall be entitled to assert that the period of instrumentation and monitoring system downtime was justified under the circumstances. Nothing in this Paragraph is intended to prevent BPP from claiming a force majeure defense to any period of instrumentation and/or monitoring system downtime. Nothing in this Paragraph supersedes or replaces the monitoring requirements, including operation, maintenance, and quality assurance/quality control requirements, of 40 C.F.R. Part 60, Subparts J and Ja (including monitoring requirements in 40 C.F.R. Part 60, Subpart Ja that may be stayed as of the Date of Lodging of this Consent Decree but may become effective after the Date of Lodging) at such time as those requirements become applicable pursuant to Paragraphs 69 and 70. All such requirements shall apply in accordance with the terms set forth in 40 C.F.R. Part 60, Subparts J and Ja.

D. Flare Gas Recovery Systems for all Covered Flares Except the DDU Flare

23. Dates of Installation and Commencement of Operation of Flare Gas Recovery Systems

    a. Except as specifically provided in Subparagraph 23.b, by no later than the following dates for the following Covered Flares or groups of Covered Flares, BPP shall complete installation and commence operation of the following Flare Gas Recovery Systems:

ID	Covered Flares	Date
FGRS 1	South Flare	Upon startup of South Flare
FGRS 2	GOHT	Upon startup of GOHT Flare
FGRS 3	VRU, FCU, Alky	December 31, 2015
FGRS 4	4UF, UIU	December 31, 2016

b. BPP shall complete the tie-in of the UIU Flare to FGRS 4 by no later than December 31, 2017, and commence recovery of Waste Gas by that time.

Note: This Paragraph (D.23.a) was not required to be placed in a Part 70 operating permit pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207; however, the requirement is specified in the Consent Decree entered in Civil No. 2:12-CV-00207.

25. Operation of Flare Gas Recovery Systems. Each Flare Gas Recovery System shall be operated in a manner to minimize Waste Gas to the Flares while ensuring safe refinery operations. BPP shall operate the equipment consistent with good engineering and maintenance practices and in accordance with the manufacturer's specifications.

a. Each compressor shall be capable of starting automatically from an idle mode in a time period and manner consistent with the manufacturer's specifications when necessary to process additional Waste Gas. BPP shall equip the compressors with automatic startup capability by no later than the following dates:

ID	Covered Flares	Date
FGRS 1	South Flare	December 31, 2015
FGRS 2	GOHT	December 31, 2015
FGRS 3	VRU, FCU, Alky	Upon startup of FGRS 3
FGRS 4	4UF, UIU	Upon startup of FGRS 4

b. A compressor in a standby mode and capable of automatic startup shall be considered to be available for operation. Once the compressors at the applicable FGRS are capable of automatic startup as specified in subparagraph 25.a., the FGRS shall have the following number of compressors available for operation at least 95% of the time, based on an 8760-hour rolling average, rolled hourly:

No. of Compressors that must be available ID	Covered Flares	at least 95% of the time
FGRS 1	South Flare	1
FGRS 2	GOHT	1
FGRS 3	VRU, FCU, Alky	3
FGRS 4	4UF, UIU	2

Each FGRS shall be designed to automatically startup available compressors to process surplus Waste Gas until all available compressors are in operation, including times when a FGRS has all of its installed compressors available for operation. Prior to the installation of automatic startup at FGRS 1 and FGRS 2, BPP shall start compressors manually from standby mode to process surplus Waste Gas within one hour.

c. Additional Requirements Applicable to FGRS 3 and 4

i. At all times, except during the periods described in subparagraphs iii or iv below, BPP shall have one compressor in operations at FGRS 3 and at least one additional compressor either in operation or in a standby mode and capable of automatic startup.

ii. At all times, except during the periods described in subparagraphs iii or iv below, BPP shall have one compressor in operation at FGRS 4.
iii. The requirements of subparagraphs i and ii shall not apply to an FGRS during periods of maintenance on common equipment within that FGRS. These periods of maintenance shall not exceed 336 hours per FGRS on a five year rolling average period, rolled daily. BPP will make best efforts to schedule these maintenance activities during process unit turnarounds and to minimize the generation of Waste Gas during such periods.
iv. The requirements of subparagraph i and ii shall not apply during periods when compressors are shut down consistent with the manufacturer's specifications or good engineering practices to preserve the mechanical integrity of the compressors (for example, as a result of high pressure or temperature).

E. Limitations on Flaring

26. Limitations on Flaring: Initial Limit. By no later than December 31, 2018, BPP shall comply with the following limitations on flaring at the Refinery:

    a. From all Covered Flares and the LPG Flare, BPP shall not flare more than 3.1 MMscfd of Waste Gas on a 30-day rolling average basis, rolled daily; and

    b. From all Covered Flares and the LPG Flare, BPP shall not flare more than 2.1 MMscfd of Waste Gas on a 365-day rolling average basis, rolled daily.

    Each exceedance of the 30-day rolling average limit or each exceedance of the 365-day rolling average limit shall constitute one day of violation. An exceedance of either or both of the limits shall not prohibit ongoing refinery operations.

27. Limitations <u>on Flaring: Requesting an Increase in the Limit</u>.

    a. Once per calendar year commencing no sooner than January 2019, BPP may submit a request to EPA to increase the limitations on flaring set forth in Subparagraphs 26.a and/or 26.b. Any request for an increase in the limitations on flaring shall be based upon an increase in crude capacity that is due to a post-WRMP permitted modification. In any such request, BPP shall propose (a) new limit(s) based upon the following equations:

        i. For the Refinery-wide, 30-day rolling average limit:

        Refinery Flaring ≤ 750,000 scfd x Whiting Crude Cap.x Whiting Complexity 100,000 bpd
        Industry Avg Complexity

        ii. For the Refinery-wide, 365-day rolling average limit:

        Refinery Flaring ≤ 500,000 scfd x Whiting Crude Cap.x Whiting Complexity 100,000 bpd
        Industry Avg Complexity

    b. For purposes of Subparagraph 27.a:

        i. The items in italics are variables that will change over time.
        ii. The Whiting Crude Capacity shall be based on the projected capacity of the Refinery, as reported annually by BPP to the Department of Energy for the year of the request date.
        iii. The Whiting Complexity shall be calculated in accordance with Equation 1 of Appendix FLR-14. The crude capacity will be the capacity reported by BPP to the Department of Energy for the year that the limit will be in effect. The process unit capacities will be the capacities published the Oil & Gas Journal in barrels per calendar day for the year that

the limit will be in effect. BPP shall certify the accuracy of the process unit capacities used to support any request for a change to the limitations on flaring.

iv. The *Industry Average Complexity* shall be calculated in accordance with Equation 2 of Appendix FLR-14.

c. EPA Response to Request. EPA shall evaluate any request under Subparagraph 27.a on the basis of consistency with Subparagraphs 27.a and 27.b. If EPA does not act on BPP's request within 90 days of submission, BPP may invoke the dispute resolution provisions of this Decree. The new limit(s) shall take effect, if ever, beginning on the date that EPA approves the request or a dispute is resolved in BPP's favor. Nothing in this Consent Decree shall be construed to relieve BPP of an obligation to evaluate, under applicable Prevention of Significant Deterioration and Nonattainment New Source Review requirements, any increase in a Refinery-Wide Limit on Flaring.

28. Meaning and Calculation of "Waste Gas" Flow for Purposes of the Limitation on Flaring. For purposes of the meaning and calculation of "Waste Gas" flow in the limitations on flaring in Paragraphs 26 and 27, the following shall apply:

a. To the extent that BPP has instrumentation capable of measuring the volumetric flow rate of hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam) in the Waste Gas, the contribution of all measured flows of any of these elements/compounds may be excluded from the Waste Gas flow rate calculation.

b. Waste Gas flows during all periods (including but not limited to normal operations and periods of startup, shutdown, Malfunction, process upsets, relief valve leakages, power losses due to an interruptible power service agreement, and emergencies arising from events within the boundaries of the Refinery), except those expressly described in Subparagraph 28.c and/or the next sentence, shall be included. Waste Gas flows that could not be prevented through reasonable planning and are caused by a natural disaster, act of war or terrorism, or External Power Loss may be excluded from the calculation of flow rate.

c. By no later than 180 days prior to a Cold Startup of the Refinery, BPP may submit to EPA a plan to minimize Waste Gas flaring during a Cold Startup of the Refinery ("Cold Startup Waste Gas Minimization Plan"). If BPP submits a Cold Startup Waste Gas Minimization Plan and operates in accordance with it, BPP may exclude, from the Refinery-Wide 30-day rolling average limit, Waste Gas flows during any Cold Startup that occurs more than 180 days after submission of the Cold Startup Waste Gas Minimization Plan. BPP may not exclude any such flows from the refinery-wide 365-day rolling average limit.

d. Except for hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam) contributions to the flow rate that are excluded by virtue of instrumentation measuring these flows, by no later than thirty days after the occurrence of any flow that is not included in a computation, BPP shall submit a written report to EPA that specifically identifies the event that resulted in the exclusion. If the event is a Cold Startup of the Refinery, BPP shall describe dates, durations, and volumes of the flows during the Cold Startup as well as the steps BPP took in compliance with the Cold Startup Waste Gas Minimization Plan. If the event is anything other than a cold startup, BPP shall describe the following: the date(s) and duration(s) of the flows caused by the event; the estimated VOC emissions during the event; whether flows from the event are anticipated to persist after the notice, and if so, for how long; and the measures taken or to be taken to prevent or minimize the flows, including, for future anticipated flow, the schedule by which those measures will be implemented.

F. Flare Combustion Efficiency Requirements for Covered Flares

29. Emission Standards and Work Practices Applicable to each Covered Flare upon the "Date of Entry". By no later than the "Date of Entry", BPP shall comply with the following requirements at each Covered Flare:

    a. Operation during Emissions Venting. BPP shall operate each Covered Flare at all times when emissions may be vented to it.

    b. No Visible Emissions. Except for periods of Startup, Shutdown, and/or Malfunction, BPP shall operate each Covered Flare with no Visible Emissions. Method 22 in 40 Part 60, Appendix A, shall be used to determine compliance with this standard. However, for purposes of this Appendix, Visible Emissions may be determined by either a person certified pursuant to Method 22 or by a video camera.

    c. Flame Presence. Except for periods of Malfunction of the Flare, BPP shall operate each Covered Flare with a flame present at all times. BPP shall monitor the presence of the pilot flame using a thermocouple or any other equivalent device to detect the presence of the pilot flame.

    d. Exit Velocity. Except for periods of Startup, Shutdown, and/or Malfunction, BPP shall operate each Covered Flare with an Exit Velocity less than 18.3 m/sec (60 ft/sec) on a one-hour block average; provided however, that:

        i. If any Covered Flare combusts Vent Gas with a Net Heating Value of greater than 1000 BTU/scf, BPP may operate the Covered Flare with an Exit Velocity equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) on a one-hour block average; and
        ii. If any Covered Flare has a maximum permitted velocity (V_{max}), BPP may operate the Covered Flare with an Exit Velocity less than V_{max} provided that it also operates the applicable Flare with an Exit Velocity of less than 122 m/sec (400 ft/sec) on a one-hour block

        Vmax shall be calculated in accordance with 40 C.F.R. § 60.18(f)(5). The Unobstructed Cross Sectional Area of the Flare Tip shall be calculated consistent with Appendix FLR-6.

    e. <u>Monitoring According to Applicable Provisions</u>. BPP shall comply with all applicable Subparts of 40 C.F.R. Parts 60, 61, or 63 that state how a particular Covered Flare must be monitored.

    f. <u>Good Air Pollution Control Practices</u>. At all times, including during periods of Startup, Shutdown, and/or Malfunction, BPP shall implement good air pollution control practices to minimize emissions from each Covered Flare; provided however, that BPP shall not be in violation of this requirement for any practice that this Consent Decree requires BPP to implement after the Date of Lodging for the period between the Date of Lodging and the implementation date or compliance date (whichever is applicable) for the particular practice.

30. Work Practice Standards for each Covered Flare.. By no later than January 31, 2014, for all Covered Flares utilizing the instrumentation and controls required to be installed pursuant to Paragraphs 7 – 13, BPP shall install and operate on each Covered Flare an Automatic Control System that shall:

    a. automate the control of the Supplemental Gas flow rate to the respective Flare; and

    b. automate the control of the Total Steam Flow Rate to the respective Flare.

31. Exception to Part of the Work Practice Standards in Subparagraph 30.b. BPP manually may override the operation of the Automatic Control System required in Subparagraph 30.b (for control of Total Steam Mass Rate) if the exception in Paragraph 51 applies and/or in order to achieve the following:

    a. Stop Smoke Emissions that are occurring;

    b. Meet the Net Heating Value requirements of Paragraph 33;

    c. Prevent extinguishing the Flare;

    d. Protect personnel safety;

    e. Stop Discontinuous Wake Dominated Flow; and/or

    f. During Startup, Shutdown, or Malfunction of a process unit that feeds the Covered Flare.

32. Operation According to Design. By no later than December 31, 2014, for all Covered Flares, BPP shall operate and maintain each Covered Flare in accordance with its design, except if, and only to the extent that, operation and maintenance of the Covered Flare in conformance with its design conflicts with compliance with one or more of the requirements of this Appendix.

33. Net Heating Value Standards for each Covered Flare

    b. *NHVcz-limit*. By no later than December 31, 2014, for all Covered Flares, and except as provided in Paragraph 51, BPP shall calculate an *NHVcz-limit* at each Covered Flare no less than every fifteen minutes. Except as provided in Paragraph 51, BPP shall operate each Covered Flare so as to ensure that the Covered Flare's *NHVcz*, on a three-hour rolling average basis, rolled every fifteen minutes, is greater than or equal to its *NHVcz-limit* on a three-hour rolling average basis, rolled every fifteen minutes. BPP shall utilize the equations and directives set forth in Appendix FLR-3 to meet the requirements of this Subparagraph.

34. *S/VG* Standards.
    a. By no later than December 31, 2014, for all Covered Flares, BPP shall operate each Covered Flare at less than or equal to an *S/VG* of 3.0 on a one-hour rolling average, rolled every five minutes.

    b. Exceptions. Notwithstanding the requirements of Subparagraph 34.a, BPP is not subject to the emissions standard in that Subparagraph if the exception in Paragraph 51 applies and/or in order to achieve the following:

        i. Stop Smoke Emissions that are occurring;
        ii. Meet the Net Heating Value requirements of Paragraph 33;
        iii. Prevent extinguishing the Flare; and/or
        iv. Protect personnel safety.

35. Prohibition on Discontinuous Wake Dominated Flow or Requirement for Minimum *MFR* for Covered Flares.

    a. By no later than December 31, 2014, for all Covered Flares, BPP shall comply with either Subparagraph 35.b. or 35.c. In the first semi-annual report due after the applicable compliance date, BPP shall identify which compliance option it selects for each Covered Flare. BPP may select different alternatives for different Covered Flares and may change its election for any given Covered Flare by providing EPA with 30 days prior notice of the change.

b. Prohibition on Discontinuous Wake Dominated Flow.

i. BPP shall not operate the Covered Flares with Discontinuous Wake Dominated Flow, except for periods not to exceed a total of five minutes during any two consecutive hours. BPP shall add Supplemental Gas as necessary to prevent such instances of Discontinuous Wake Dominated Flow at the Covered Flares.
ii. Prior to the effective date of the prohibition in Subparagraph 35.b.i, for all operators and supervisors with responsibility and/or oversight for the operation of each Covered Flare, BPP shall complete training on the meaning and prevention of Discontinuous Wake Dominated Flow. After the effective date, operators shall monitor the operation of each Covered Flare at intervals appropriate for the weather conditions and service of the Covered Flare in order to comply with the prohibition in Subparagraph 35.b.i.

c. MFR Requirements. MFR shall be calculated in accordance with the equations, conversion factors, MFR constants, MFR measured variables, and MFR calculated variables set forth in Appendix FLR-5. BPP shall either:

i. Maintain a minimum MFR of 0.0030 on a 60 minute rolling average basis, rolled every 5 minutes, at each Covered Flare; or
ii. Propose a Flare-specific MFR. BPP shall submit such a proposal to EPA for approval. In any such proposal, BPP shall demonstrate, using, at a minimum, photographs correlated to MFR, that at the proposed MFR, Discontinuous Wake Dominated Flow will not occur for the Covered Flare that is the subject of the request. d. Notwithstanding Subparagraphs 35.b and c., BPP shall not be required to add Supplemental Gas at any time that the wind speed at the Refinery is greater than or equal to 35 mph on a 60-minute rolling average basis, rolled every 5 minutes, and/or if the exception in Paragraph 51 applies.

36. 98% Combustion Efficiency. By no later than December 31, 2014, for all Covered Flares, BPP shall operate each Covered Flare with a minimum of a 98% Combustion Efficiency at all times when Waste Gases are vented to it. To demonstrate continuous compliance with the 98% Combustion Efficiency, BPP shall operate each Covered Flare within the range of operating parameters set forth in Paragraphs 33 – 35.

37. Inapplicability of Paragraphs 33 – 36. The requirements of Paragraphs 33 – 36 are not applicable to any Covered Flare when the only gas or gases being vented to the Covered Flare is/are Pilot Gas and/or Purge Gas. Pilot Gas and Purge Gas will be considered to be the only gases being vented to those Flares if both of the following conditions are met for the water seal drum that is part of the FGRS associated with the respective Covered Flare:

a. The pressure difference between the inlet pressure and outlet pressure is less than the water seal pressure as set by the static head of water between the opening of the dip tube in the drum and the level-setting weir in the drum; and

b. The water level in the drum is at the level of the weir.

41. Recordkeeping: Timing and Substance. BPP shall comply with the following recordkeeping requirements:

a. By no later than March 31, 2014, for all Covered Flares, BPP shall calculate and record, in accordance with the recording and averaging times required in Paragraph 16, each of the following parameters:

i. Total Steam Volumetric Flow Rate (in scfm) and Total Steam Mass Flow Rate (in lb/hr)
ii. Vent Gas Flow and Mass Rates (in scfm and lb/hour)

iii. S/VG (in lbs steam/lbs Vent Gas)
iv. NHVvg (in BTU/scf)
v. NHVcz (in BTU/scf)
vi. NHVcz-limit (in BTU/scf)

b. By no later than June 30, 2014, for all Covered Flares, commencing if and when any instrument subject to Paragraph 17 operates at less than 95% in any calendar quarter of the in-service time of the Covered Flare that is being monitored by the respective instrument, BPP shall record the duration of the deviation, an explanation of the cause(s) of the deviation, and a description of the corrective action(s) that BPP took.

c. By no later than January 31, 2014, for all Covered Flares, for compliance with the work practice standards in Paragraph 30: (i) BPP shall record each time it manually overrides its Automatic Control System, including the date, time, duration, reason for the override, and corrective actions that BPP took; and (ii) where the reason for the override was to stop Smoke Emissions that were occurring, BPP shall include a copy of the digital video record (with a time stamp) of the Covered Flare during the period of the manual override.

d. At any time that BPP deviates from the standards in Paragraphs 29, 33 - 36, after the effective date of those standards, BPP shall record the duration of the deviation, an explanation of the cause(s) of the deviation, and a description of the corrective action(s) that BPP took.

e. Recordkeeping: Document Retention. For purposes of this Appendix, and except with respect to the data produced by video cameras required pursuant to Paragraph 13, BPP shall retain all records created pursuant to this Appendix, including the raw data values, in accordance with Part VIII ("Reporting and Recordkeeping") and shall make any such documents available to EPA upon request. BPP shall retain the data recorded by the Video Cameras required pursuant to Paragraph 13 for six months except that BPP shall comply with the data retention requirements in Part VIII for those periods when BPP overrode the Automatic Control System.

G. LPG Flare Requirements

42. LPG Flare Requirements: Instrumentation and Monitoring Systems. By no later than one year after the Date of Entry, BPP shall undertake the following for the LPG Flare:
    a. Install a flow meter in order to determine the Vent Gas Volumetric and Mass Flow Rates to the LPG Flare. The air flow rate shall be determined from the fan speed on the Assist Air blower.

    b. Install a Variable Speed Motor on the LPG Flare's Assist Air blower;

    c. Install a control system that will automate the control of the Variable Speed Motor on the LPG Flare's Assist Air blower to enable BPP to comply with the standard set forth in Paragraph 45; and

    d. In the semi-annual report required under Paragraph 98 of Part VIII that is the first one due after one year after the Date of Entry of this Consent Decree, provide a detailed description of the installations made in compliance with Subparagraphs 42.a. and 42.b, including the specific models and manufacturers.

44. Emission Standards Applicable to the LPG Flare. By no later than one year after the Date of Entry, BPP shall comply with each of the requirements in Paragraph 29 at the LPG Flare, except that, with respect to Exit Velocity, BPP shall comply with the requirements in 40 C.F.R. § 60.18(c)(5) and not those in Subparagraph 29(d).

45. Standard for $\dot{m}_{air\text{-}asst}/\dot{m}_{air\text{-}stoich\text{-}vg}$. By no later than one year after the Date of Entry of this Consent Decree and continuing through to either: (i) the date that EPA sets a new limit pursuant to either Subparagraph 48.d or 49.b; or (ii) the termination of this Consent Decree, whichever is applicable, BPP shall operate the LPG Flare so as to ensure that $\dot{m}_{air\text{-}asst} < 10 \times \dot{m}_{air\text{-}stoich\text{-}vg}$, on a one-hour rolling average, rolled every five minutes. BPP shall utilize the equations and directives set forth in Appendix FLR-15 to meet the requirements of this Paragraph. Notwithstanding the requirements of this Paragraph, BPP is not subject to the standard set forth in this Paragraph if the exception in Paragraph 51 applies and/or in order to (1) stop Smoke Emissions that are occurring, (2) prevent extinguishing the Flare, (3) protect personnel safety, and /or (4) prevent Wake Dominated Flow.

46. Operation According to Design. By no later than one year after the Date of Entry of this Consent Decree, BPP shall operate and maintain the LPG Flare in accordance with its design, except if, and only to the extent that, operation and maintenance of the LPG Flare in conformance with its design conflicts with compliance with one or more of the requirements of this Appendix.

48. Testing Depending on Annual Average Vent Gas Volumetric Flow Rate to the LPG Flare: Consequences if the Annual Average Vent Gas Flow Rate for 2015 for the LPG Flare Equals or Exceeds Certain Figures.

    d. EPA-Established Operating Limits and Combustion Efficiency. Based on all of the available information from the testing conducted pursuant to Subparagraph 48.a and the report submitted pursuant to Subparagraph 48.b, EPA shall establish a $\dot{m}_{air\text{-}asst}/\dot{m}_{air\text{-}stoich\text{-}vg}$ that will enable BPP to achieve a Combustion Efficiency as high as reliably obtainable. EPA also shall establish a Combustion Efficiency for the LPG Flare that is reliably obtainable, but shall be no higher than 98%. Within 60 days of receiving written notice establishing such limits, BPP shall comply with the $\dot{m}_{air\text{-}asst}/\dot{m}_{air\text{-}stoich\text{-}vg}$ and Combustion Efficiency established by EPA.

    e. Exceptions to Compliance with Limits in Subparagraphs 48.c and 48.d. BPP shall not be subject to the limits in Subparagraphs 48.c. or 48.d if the exception in Paragraph 51 applies and/or in order to achieve the following:

        (1) Stop Smoke Emissions that are occurring;
        (2) Meet Net Heating Value requirements;
        (3) Prevent extinguishing the Flare; and/or
        (4) Protect personnel safety.

H. Exception for Instrument Downtime

51. A failure to comply with the work practices or standards in Paragraphs 30.b, 33.a, 33.b, 34.a, 35.b, 35.c, 45, 48.c, or 48.d shall not constitute a violation of such work practice or standard if the noncompliance results from downtime of instruments or equipment due to the following:

    a. Malfunction of an instrument, for an instrument needed to meet the requirement(s);

    b. Maintenance following instrument Malfunction, for an instrument needed to meet the requirement(s);

    c. Scheduled maintenance of an instrument in accordance with the manufacturer's recommended schedule, for an instrument needed to meet the requirement; and/or

    d. Quality Assurance/Quality Control activities on an instrument needed to meet the requirement.

Provided, however, that this exception shall no longer be applicable if the activities in Subparagraphs 51a. through d. exceed 110 hours in any calendar quarter for any instrument. The calculation of instrument downtime shall be made in accordance with 40 C.F.R. § 60.13(h)(2) and Paragraph VI of Appendix FLR-11.

K. Miscellaneous

67. Temporary-Use Flares.

a. Applicability.
The provisions of this Paragraph shall apply to Temporary-Use Flares.

b. Distinction between Planned and Unplanned Outages of Covered Flares.
For purposes of this Paragraph, a "planned" outage of a Covered Flare shall mean an outage that is scheduled 30 days or more in advance of the outage. An "unplanned" outage is an outage that either is scheduled less than 30 days in advance or is unscheduled.

c. 504 hours or less.
For any planned or unplanned outage of a Covered Flare that BPP knows or reasonably anticipates will result in 504 hours or less of downtime on a rolling 1095 day average period, BPP shall make good faith efforts to ensure that the Temporary-Use Flare that replaces the Covered Flare complies with all of the requirements of this Consent Decree that are applicable to the Covered Flare that the Temporary-Use Flare replaces.

d. More than 504 hours.

i. Planned.
For any planned outage of a Covered Flare that BPP knows or reasonably can anticipate will last 504 hours or more on a rolling three-year average period, BPP shall ensure that the Temporary-Use Flare complies with all of the requirements of this Appendix related to the Covered Flare that it replaces as of the date that the Temporary-Use Flare is placed into service.

ii. Unplanned.
For any unplanned outage of a Covered Flare that, in advance of the outage, BPP cannot reasonably anticipate will last longer than 504 hours, BPP shall ensure that the Temporary-Use flare complies with all of the requirements of this Appendix related to the Covered Flare that it replaces by no later than 30 days after the date that BPP knows or reasonably should have known that the outage would last 504 hours or more.

e. Recordkeeping.
BPP shall keep records sufficient to document compliance with the requirements of this Paragraph any time it uses a Temporary-Use flare.

Note: Paragraph K.67, a., b. and e. was not required to be placed in a Part 70 operating permit pursuant to the Consent Decree entered in Civil No. 2:12-CV-00207; however, the requirements are specified in the Consent Decree entered in Civil No. 2:12-CV-00207.

L. NSPS Subparts A, J, and Ja Applicability for Flares

69. NSPS Subparts A and J.

a. Beginning on the "Date of Entry", and continuing until they become subject to the provision of 40 C.F.R. Part 60, Subpart Ja under Paragraph 70, the DDU and LPG Flares will each continue to be an "affected facility" within the meaning of Subparts A and J of 40 Part 60, will be subject to Subparts A and J, and will comply with the requirements of Subparts A and J, including all monitoring, recordkeeping, reporting, and operating requirements.

b. Beginning upon the date of initial startup, and continuing until they become subject to the provisions of 40 C.F.R. Part 60, Subpart Ja under Paragraph 70, the South and GOHT Flares shall each be an “affected facility” within the meaning of Subparts A and J of 40 C.F.R. Part 60. No later than 180 Days after the date of initial startup, and continuing until they become subject to the provisions of 40 C.F.R. Part 60, Subpart Ja under Paragraph 70, the South and GOHT Flares shall comply with the requirements of Subparts A and J, related to Flares, including all monitoring, recordkeeping, reporting, and operating requirements.

c. Beginning on the dates by which they are required to be tied into a FGRS under Paragraph 23 and continuing until they become subject to the provisions of 40 C.F.R. Part 60, Subpart Ja under Paragraph 70, the VRU, Alky, FCU, UIU and 4UF Flares shall each be an “affected facility” within the meaning of Subparts A and J of 40 C.F.R. Part 60, will be subject to Subparts A and J, and will comply with the requirements of Subparts A and J, including all monitoring, recordkeeping, reporting, and operating requirements.

70. NSPS Subpart Ja.

a. The DDU and the LPG Flare will each be an “affected facility” within the meaning of Subpart Ja of 40 C.F.R. Part 60, will be subject to Subpart Ja, and will comply with the requirements of Subpart Ja, including all monitoring, recordkeeping, reporting, and operating requirements, by the later of the Date of Entry or the date of compliance required by Subpart Ja when the stay of Subpart Ja no longer is in effect. The other Covered Flares will each be an “affected facility” within the meaning of Subpart Ja of 40 C.F.R. Part 60, will be subject to Subpart Ja, and will comply with the requirements of Subpart Ja, including all monitoring, recordkeeping, reporting, and operating requirements, by the later of: (i) the date by which that Flare is required to be tied into a FGRS under Paragraph 23; or (ii) the date of compliance required by Subpart Ja when the stay of Subpart Ja no longer is in effect.

b. For each Covered Flare and the LPG Flare, upon the date that each such flare becomes an “affected facility” as set forth in Subparagraph 70.a, the requirements in Sections I. and J. of this Appendix will no longer be applicable to such flare.

SECTION D.36 FACILITY OPERATION CONDITIONS – OSBL

Facility Description [326 IAC 2-7-5(14)]:

(kk) The OSBL area includes the pipe alleys, laboratory dock and waste transfer pad. The pipe alleys contain pipes that transfer hydrocarbon streams from one process unit to another or to storage. This facility includes leaks from process equipment, including open-ended valves or lines and flanges and heat exchange systems. This facility also contains area drains and an oil/water separator. This facility may include insignificant activities listed in section A.4 of this permit."

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.36.1 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at OSBL.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the OSBL is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The OSBL shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, and the Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at OSBL no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.

(2) The OSBL shall not be subject to the requirements in 40 CFR § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

(3) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.36.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.36.1. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.36.3 Wastewater / Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC] [326 IAC 14][40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, subpart CC specified in Section E.1.

(d) Pursuant to 40 CFR 63, Subpart DD, the Permittee shall comply with the requirements under 40 CFR 63.680(d) specified in Section E.14 of the permit for off-site wastewater received at the refinery.

Compliance Monitoring Requirements

D.36.4 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.36.5 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.36.1(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.36.1(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.36.3(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(d) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.36.3(b), the Permittee shall keep records as specified in Section E.6.

(e) To document compliance with Condition D.36.1(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph (a) of this condition.

D.36.6 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.36.1(a), the Permittee shall submit reports as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.36.1(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.36.3(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(d) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.36.3(b), the Permittee shall submit reports as specified in Section E.6.

(e) To document compliance with Condition D.36.1(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph (a) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.37 FACILITY OPERATION CONDITIONS – Distillate Hydrotreating Unit

Facility Description [326 IAC 2-7-5(14)]:

(ll) The Distillate Hydrotreating (DHT) Unit, identified as Unit ID 720 and rated at 45,000 barrels per day, which removes sulfur from petroleum distillates. Distillate feed is mixed with hydrogen, heated in a process furnace and passed over a catalyst bed to convert sulfur compounds to H_2S. The DHT Unit was constructed in 2005/2006 and includes the following emission units:

(1) DHT Unit Heater B-601, rated at 35 mmBTU per hour and constructed in May 2005. As part of the WRMP Project, DHT Unit Heater B-601 will be replaced with a 41.9 mmBTU per hour natural gas fired heater, identified as B-601A. NO_X emissions are controlled by ultra low- NO_X burners having an emission rate of 0.04 pounds per million Btu heat input or less. Emissions are exhausted to a stack identified as 720-01. The DHT Heater B-601 was shut down as of July 7, 2010.

(2) Associated valves, pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, flanges or other connectors, and instrumentation and heat exchange systems.

The DHT Unit shares the DDU Flare, used to control VOC emissions during emergency situations, unit startups and shutdowns.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.37.1 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from Heater B-601A shall not exceed 0.03 grains per dry standard cubic foot.

D.37.2 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4.1-1]

Pursuant to 326 IAC IAC 7-4.1-1, the Permittee shall burn only natural gas in DHT Heater B-601A.

D.37.3 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3] Minor Limits

(a) In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for heater B-601A:

(1) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the emissions of NOx shall not exceed 7.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(2) The emissions of CO shall not exceed 7.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(3) The emissions of VOC shall not exceed 0.0054 pounds per million BTU.

(4) The emissions of PM and PM_{10} shall each not exceed 0.0075 pounds per million BTU.

(5) The firing rate shall not exceed 367,044 million BTU per 12 consecutive month period, with compliance determined at the end of each month.

(b) In addition, to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the heater B-601 shall be permanently shut down upon completion of the WRMP project.

(c) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.37.4. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.37.4 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 12] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [40 CFR 60, Subpart GGG] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at the DHT.

(c) Pursuant to 40 CFR 60, Subpart GGG, the Permittee shall comply with the requirements specified in Sections E.1, E.4, and E.13 for equipment leaks of VOC from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service.

(d) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the DHT is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the DHT no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect

to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.37.5 Wastewater / Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC] [326 IAC 14][40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and aggregate facilities subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and aggregate facilities subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.37.6 Emission Offset [326 IAC 2-3]

(a) Equipment leaks shall comply with the standards in 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, as applicable for components in gas/vapor service and light liquid service, except that a more stringent definition of a leak shall apply to valves and flanges. An instrument reading of 500 parts per million (ppm) or greater shall constitute a leak for valves and flanges.

(b) All emissions from pressure relief devices and compressor seal systems shall be vented to a flare and burned as fuel.

The requirements in paragraphs (a) and (b) of this condition render the requirements of Emission Offset (326 IAC 2-3) not applicable.

D.37.7 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart Ja]

Upon final promulgation of 40 CFR 60, Subpart Ja, and the lifting of the administrative stay that is currently in place, the Permittee shall make a determination as to whether DHT Heater B-601A is an affected facility for NO_X as that term is used in 40 CFR 60, Subpart Ja. If the Permittee determines that Subpart Ja has been triggered, the Permittee shall comply with the process heater NO_X requirements of the rule for DHT Heater B-601A.

D.37.8 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, the Permittee shall continuously operate Ultra-Low NO_X burners on DHT Heater B-601A.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, "fuel oil" shall not be burned in DDU Heater B-601A.

Compliance Determination Requirements

D.37.9 Performance Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Compressors in hydrogen service are exempt from the requirements of 40 CFR 60.592 and 40 CFR 63.698(a) and (c) if the Permittee demonstrates that a compressor is in hydrogen service. The Permittee may use engineering judgment to demonstrate that the percent hydrogen content exceeds 50 percent by volume. In the event that OAQ does

not agree, OAQ reserves the right to require testing in accordance with 40 CFR 60.593(b)(1) and 40 CFR 63.698(g)(2)(i)(A).

(b) Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the DHT Heater B-601A, the Permittee shall perform PM, PM10, and VOC testing of DHT Heater B-601A utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.37.10 Continuous Emissions Monitoring

In order to demonstrate compliance with Condition D.37.3, the CO and NO_X Continuous Emissions Monitors (CEMs) for DHT Heater B-601A shall be calibrated, maintained, and operated for determining compliance with CO and NO_X emissions limits in Conditions D.37.3(a)(1) and (2) in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.37.11 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.37.12 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.37.4(a), the Permittee shall keep records as specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC, and to document the compliance status with Condition D.37.4(b), the Permittee shall keep records as specified in Sections E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.37.5(a), the Permittee shall keep records as specified in Sections E.1 and E.3.

(d) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.37.5(b), the Permittee shall keep records as specified in Section E.6.

(e) In order to document the compliance status with Condition D.37.3, the Permittee shall maintain records of the monthly firing rates at B-601A.

(f) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.37.11, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.

(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
(A) Date of facility downtime,
(B) Time of commencement and completion of downtime, and
(C) Reason for each downtime.

(g) To document compliance with Condition D.37.4(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(h) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (e) and (f) of this condition.

D.37.13 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.37.4(a), the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(b) Pursuant to 40 CFR 63, Subpart CC, and to document the compliance status with Condition D.37.4(b), the Permittee shall submit reports as specified in Section E.1 and E.4.

(c) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.37.5(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(d) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.37.5(b), the Permittee shall submit reports as specified in Section E.6.

(e) In order to document the compliance status with Condition D.37.3, the Permittee shall submit a quarterly summary of the monthly firing rates at heater B-601A not later than thirty (30) days after the end of the quarter being reported.

(f) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.37.3 and D.37.11, the Permittee shall submit reports of excess CO and NO_X emissions not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.

(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
- (A) Date of downtime.
- (B) Time of commencement.
- (C) Duration of each downtime.
- (D) Reasons for each downtime.
- (E) Nature of system repairs and adjustments

(g) To document compliance with Condition D.37.4(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(h) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (e) and (f) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.38 FACILITY OPERATION CONDITIONS – Degreasing

Facility Description [326 IAC 2-7-5(14)]:

Insignificant Activities

(l) Degreasing operations that do not exceed 145 gallons per twelve (12) months, except if subject to 326 IAC 20-6 [326 IAC 2-7-1(21)(G)(vi)(CC)] [326 IAC 8-3].

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.38.1 Cold Cleaner Operations [326 IAC 8-3-2]

(a) Pursuant to 326 IAC 8-3-2(a) (Cold Cleaner Degreaser Control Equipment and Operating Requirements), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.

(5) Provide a permanent, conspicuous label that lists the operation requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in covered containers.

(7) Prohibit the dispose or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Pursuant to 326 IAC 8-3-2(b) (Cold Cleaner Degreaser Control Equipment and Operating Requirements), for cold cleaner degreaser operations without remote solvent reservoirs, the Permittee shall ensure that the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and

(B) shall be applied at a pressure that does not cause excessive splashing.

D.38.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8(b)(2), no person shall operate a cold cleaner degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.38.3 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.38.2, the Permittee shall maintain each of the following records for each purchase:

(1) The name and address of the solvent supplier.

(2) The date of purchase (or invoice/bill date of contract servicer indicating service date).

(3) The type of solvent purchased.

(4) The total volume of the solvent purchased.

(5) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty eight (68) degrees Fahrenheit).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the record keeping required by this condition.

SECTION D.39 FACILITY OPERATION CONDITIONS – Fuel Dispensing Facility

Facility Description [326 IAC 2-7-5(14)]:

(i) One (1) fuel dispensing operation, constructed in 2005, dispensing less than or equal to 1,300 gal/day into motor vehicle fuel tanks and with emissions less than the insignificant activity emission thresholds in 326 IAC 2-7-1(21)(A) through (C). The dispensing facility consists of a vapor balance system to control emissions and the following two (2) storage tanks [326 IAC 8-4-6]:

(A) One (1) gasoline storage tank, constructed in 2005, having a maximum storage capacity of 12,000 gallons.

(B) One (1) diesel storage tank, constructed in 2005, having a maximum storage capacity of 6,000 gallons.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.39.1 Volatile Organic Compounds [326 IAC 8-4-6(b)]

Pursuant to 326 IAC 8-4-6(b), the Permittee shall not allow the transfer of gasoline between transport and any storage tank unless such tank is equipped with the following:

(a) A submerged fill pipe.

(b) Either a pressure relief valve set to release at no less than 0.7 pounds per square inch or an orifice of 0.5 inch in diameter.

(c) A vapor balance system connected between the tank and the transport, operating according to the manufacturer's specifications.

D.39.2 Volatile Organic Compounds [326 IAC 8-4-6(e)]

Pursuant to 8-4-6(e), Permittee shall not cause or allow the dispensing of motor vehicle fuel at any time unless all motor vehicle fuel dispensing operations are equipped with and utilize a certified vapor collection and control system which is properly installed and operated as follows:

(a) No vapor collection and control system shall be installed, used, or maintained unless the system has been certified by CARB and meets the testing requirements specified in Condition D.39.3.

(b) The vapor collection and control system utilized shall be maintained in accordance to its certified configuration and with the manufacturer's specification and maintenance schedule.

(c) No elements or components of a vapor collection and control system shall be modified, removed, replaced, or otherwise rendered inoperative in a manner which prevents the system from performing in accordance with its certification and design specifications.

(d) A vapor collection and control system shall not be operated with defective, malfunctioning, missing, or noncertified components. The following requirements apply to a vapor collection and control system:

(A) All parts of the system which can be visually inspected must be checked daily by the operator of the facility for the following malfunctions:

(i) Absence or disconnection of any component required to be used to certify the system.

(ii) A vapor hose which is crimped or flattened such that the vapor passage is blocked or severely restricted.

(iii) A nozzle boot which is torn in either of the following manners:

(AA) A triangular shaped or similar tear one-half (½) inch or more to a side or a hole one-half (½) inch or more in diameter or length.

(BB) Slit one (1) inch or more in length.

(iv) A faceplate or flexible cone which is damaged in the following manner:

(AA) For balance nozzles and nozzles for aspirator and educator assist type systems, damage shall be such that the capability to achieve a seal with a fill pipe interface is affected for one-fourth (¼) of the circumference of the faceplate (accumulated).

(BB) For nozzles for vacuum assist type systems that use a cone, having more than one-fourth (¼) of the flexible cone missing.

(v) A nozzle shutoff mechanism which malfunctions in any manner.

(vi) A vacuum producing device which is inoperative.

(B) Any defect in the system which is discovered in inspections required by paragraph (A) of this condition will require the immediate shutdown of the affected pumps until proper repairs are made.

(C) A signed daily log of the daily inspection required by paragraph (A) of this condition shall be maintained at the facility.

(D) One (1) operator or employee of the gasoline dispensing facility shall be trained and instructed annually in the proper operation and maintenance of a vapor collection and control system.

(E) Instructions shall be posted in a conspicuous and visible place within the motor vehicle fuel dispensing area for the system in use at that station. The instructions shall clearly describe how to fuel vehicles correctly with the vapor recovery nozzles utilized at that station. The instructions shall also include a warning that repeated attempts to continue dispensing motor vehicle fuel after the system has indicated that the vehicle fuel tank is full, may result in a spillage of fuel.

Compliance Determination Requirements

D.39.3 Volatile Organic Compounds [326 IAC 8-4-6(l)]

(a) Pursuant to 326 IAC 8-4-6(l), the vapor collection and control system shall be retested for vapor leakage and blockage, and successfully pass the test, at least every five (5) years or upon major system replacement or modification. A major system modification is

considered to be replacing, repairing, or upgrading seventy-five percent (75%) or more of a vapor collection and control system of a facility.

(b) Pursuant to 326 IAC 8-4-6(k)(6), each vapor leakage and blockage test must, at a minimum, include the following:

(A) A pressure decay or leak test.

(B) A dynamic pressure drop test.

(C) A liquid blockage test.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.39.4 Record Keeping Requirements

Pursuant to 326 IAC 8-4-6(i), Permittee shall retain copies of all records and reports adequate to clearly demonstrate the following:

(a) That a certified vapor collection and control system has been installed and tested to verify its performance according to its specifications.

(b) That proper maintenance has been conducted in accordance with the manufacturer's specifications and requirements.

(c) The time period and duration of all malfunctions of the vapor collection and control system.

(d) The motor vehicle fuel throughput of the facility for each calendar month of the previous year.

(e) That operators and employees are trained and instructed in the proper operation and maintenance of the vapor collection and control system.

Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.40 FACILITY OPERATION CONDITIONS – CALUMET WAREHOUSE

Facility Description [326 IAC 2-7-5(14)]:

(aa) A warehouse identified as the Calumet Warehouse that includes the following emission sources and may also include other insignificant activities listed in Section A.4 of this permit [326 IAC 6.8-1-2(b)]:

(1) Kewanee Boiler No. 1 with a maximum design capacity of 5.5 mmBTU/hr heat input and is natural gas-fired only, venting to stack, S-1.

(2) Kewanee Boiler No. 2 with a maximum design capacity of 5.5 mmBTU/hr heat input and is natural gas-fired only, venting to stack, S-2.

(3) Kewanee Boiler No. 3 with a maximum design capacity of 5.5 MMBtu/hr heat input and is natural gas-fired only, venting to stack, S-3.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.40.1 Particulate Matter Limitation (PM) [326 IAC 6.8-1-2(b)]

Pursuant to 326 IAC 6.8-1-2(b)(3), the particulate matter content of natural gas burned in the Kewanee Boilers shall be limited to 0.01 grains per dry standard cubic foot natural gas.

SECTION D.41 FACILITY OPERATION CONDITIONS - Tank Cleaning Facility

Facility Description [326 IAC 2-7-5(14)]:

(mm) One (1) tank sludge cleaning facility (identified as Tank Cleaning Facility) with a maximum throughput of 300 gallons per minute of storage tank sludge/cutter stock mix per hour, with VOC and HAP emissions voluntarily controlled using either an electric catalytic oxidizer (identified as F-1) or a wet scrubber/carbon canister system (identified as S-1). The facility is approved for construction in 2007, is operated as a batch process, and consists of the following emission units:

(1) Four (4) mix tanks identified as Mix Tank #1, #2, #3, and #4. Each tank has maximum capacity of 21,000 gallons, with emissions voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(2) Two (2) enclosed centrifuges (identified as Centrifuge #1 and #2) with no process vents.

(3) One (1) diesel-fired boiler (identified as C-1), with a maximum heat input capacity of 8.4 mmBTU per hour burning low-sulfur (less than 0.05% sulfur by weight) diesel fuel. Emissions are exhausted at stack C-1-01. There is no control device for this emission unit.

(4) One (1) diesel-fired air compressor (identified as J-2), with a maximum heat input capacity of 0.84 mmBTU per hour. This compressor is a 120 hp reciprocating internal combustion engine. Emissions are exhausted through vent J-2. There is no control device for this emission unit.

(5) Two (2) diesel-fired process pumps (identified as J-1 and J-3), each having a maximum heat input capacity of 0.70 mmBTU per hour. These pumps are 100 hp reciprocating internal combustion engines. Emissions from pumps J-1 and J-3 are exhausted through vents J-1 and J-3, respectively. There are no control devices for this emission unit.

(6) Six (6) portable rectangular storage tanks, including:

(A) Two (2) Reclaimed Oil Tanks identified as ROT-1 and ROT-2. Each tank has a maximum storage capacity of 21,000 gallons and is used to store reclaimed sludge and cutter stock. Emissions are voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(B) Three (3) Cutter Stock Tanks identified as CST-1, CST-2, and CST-3. Each tank has a maximum storage capacity of 21,000 gallons and is used to store Cutter Stock. Emissions are voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(C) One (1) Concentrate Tank identified as CT-1. This tank has a maximum storage capacity of 21,000 gallons and is used to store cutter stock and tank sludge mix. Emissions are voluntarily controlled by either the catalytic oxidizer F-1 or the wet scrubber/carbon canister system S-1.

(7) One (1) electric catalytic oxidizer, identified as F-1, a maximum gas flow rate of 400 scfm. Emissions are exhausted at stack F-1-01. Under 40 CFR 60, Subpart J, the catalytic oxidizer is considered a fuel gas combustion device.

(8) Equipment leaks of VOC and HAP from pumps, valves, and connectors. Under 40 CFR 63, Subpart CC, equipment leaks from pumps, valves, and connectors associated with the Tank Cleaning Facility are affected facilities in organic hazardous air pollutant service.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.41.1 Volatile Organic Compounds (VOC) Limits [326 IAC 2-3][326 IAC 2-2]

The Tank Cleaning Facility shall be limited to less than 4,440 hours of operation per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limitation renders the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable to the installation of the Tank Cleaning Facility, which consists of Mix Tanks #1 through #4; Centrifuges #1 and #2; Boiler C-1; Compressor J-2; Processes Pumps J-1 and J-3; and Storage Tanks ROT-1, ROT-2, CST-1, CST-2, CST-3, and CT-1.

D.41.2 Particulate Matter [326 IAC 6.8-1-2]

(a) Pursuant to 326 IAC 6.8-1-2(b)(2), the particulate matter emissions from the Boiler C-1 shall be limited to 0.15 pounds per million Btu.

(b) Pursuant to 326 IAC 6.8-1-2(a), the particulate matter emissions from the pump engines (J-1 and J-3) and the compressor engine (J-2) shall be each limited to 0.03 grains per dry standard cubic foot.

D.41.3 Storage Tank Requirements [326 IAC 8-9]

Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall record and submit to IDEM, OAQ a report containing the following information for Reclaimed Oil Tanks ROT-1 and ROT-2; Cutter Stock Tanks CST-1, CST-2, and CST-3; and Concentrate Tank CT-1:

(a) The vessel identification number.

(b) The vessel dimensions.

(c) The vessel capacity.

The Permittee shall keep all records as described in (a) through (c) for the life of the vessel.

D.41.4 Standards of Performance for Petroleum Refineries) [326 IAC 12] [40 CFR 60, Subpart J]

Pursuant to 40 CFR 60, Subpart J, the Permittee shall comply with the requirements specified in Section E.2 for the electric catalytic oxidizer F-1.

D.41.5 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8][326 IAC 20-16-1][40 CFR 63, Subpart CC]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1 and E.4 for equipment leaks of HAP from pumps, valves and connectors located at the Tank Cleaning Facility.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Tank Cleaning Facility shall be an affected facility for purposes of 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Tank Cleaning Facility no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

D.41.6 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.41.5. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

D.41.7 Wastewater / Waste Streams [326 IAC 14][40 CFR 61, Subpart FF]

Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

D.41.8 Consent Decree (Civil No. 2:12-CV-00207) Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, "fuel oil" shall not be burned in any heater or boiler associated with the Tank Cleaning Facility.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.41.9 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.41.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.41.1, the Permittee shall maintain records of the number of operating hours for the Tank Cleaning Facility.

(b) Pursuant to 40 CFR 60, Subpart J and to document the compliance status with Condition D.41.4, the Permittee shall maintain the records specified in Section E.2.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.41.5(a), the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document compliance with Condition D.41.5(b), the Permittee shall keep records as specified in Section E.1 and E.4.

(e) To document compliance with Condition D.41.5(c), the Permittee shall keep records pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Pursuant to 40 CFR 61, Subpart FF and to document compliance with Condition D.41.7, the Permittee shall keep records as specified in Section E.3.

(g) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a) and (c) of this condition.

D.41.11 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.41.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(b) Pursuant to 40 CFR 60, Subpart J and to document the compliance status with Condition D.41.4, the Permittee shall submit to IDEM, OAQ the reports specified in Condition E.2.

(c) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.41.5(a), the Permittee shall submit reports as specified in the LDAR plan.

(d) Pursuant to 40 CFR 63, Subpart CC and to document the compliance status with Condition D.41.5(b), the Permittee shall submit reports as specified in Sections E.1 and E.4.

(e) To document compliance with Condition D.41.5(c), the Permittee shall submit reports pursuant to 40 CFR 60, Subpart GGGa, as specified in Sections E.25 and E.26.

(f) Pursuant to 40 CFR 61, Subpart FF and to document compliance with Condition D.41.7, the Permittee shall submit reports as specified in Section E.3.

(g) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a) and (c) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.42 FACILITY OPERATION CONDITIONS – Gas Oil Hydrotreating Unit

Facility Description [326 IAC 2-7-5(14)]:

(nn) The Gas Oil Hydrotreater (GOHT) Unit, identified as Unit ID 802 and rated at 120,000 barrels per day. The GOHT reduces the sulfur and nitrogen content of the FCU feed and improves the hydrogen content. Operation of the GOHT will enable the FCU to meet gasoline sulfur specifications and to improve FCU conversion yields. The GOHT Unit will be constructed as part of the WRMP Project and includes the following emission units:

(1) Process heaters comprising of:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emissions Controls
F-901A	47	802-01	Ultra low- NO_X burners
F-901B	47	802-02	Ultra low- NO_X burners

(3) The GOHT Unit is connected to the GOHT Flare and associated flare gas recovery system FGRS2 (included in Section D.35). This system is used to recover or control VOC emissions during emergency situations, unit startups and shutdowns.

(4) Miscellaneous process vent emissions, which are routed to the GOHT Flare and associated flare gas recovery system FGRS2 (identified in Section D.35).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.42.1 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from each of the stacks 802-01 and 802-02 shall not exceed 0.03 grains per dry standard cubic foot.

D.42.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

For the heaters identified as F-901A and F-901B:

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 , the emissions of NO_X shall not exceed 0.04 pounds per million BTU, per heater.

(b) The emissions of VOC shall not exceed 0.0054 pounds per million BTU.

(c) Following the completion of the WRMP project, the emissions of SO_2 shall not exceed 2.3 tons per 12 consecutive month period for each of the heaters F-901A and F-901B, with compliance determined at the end of each month.

(d) The emissions of PM_{10} shall not exceed 0.0075 pounds per million BTU of fuel burned.

(e) Pursuant to SSM 089-32033-00453, the emissions of PM shall not exceed 0.0075 pounds per million BTU.

(f) The emissions of CO shall not exceed 0.02 pounds per million BTU.

(g) The Permittee shall comply with the following fuel usage limits:

Unit ID	Firing rate limit (10^3 mmBTU) per 12 consecutive month period
F-901A	411.72
F-901B	411.72

(h) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.42.3. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.

Compliance with the limits on the annual firing rates and the NO_X, VOC, SO_2, CO, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.42.3 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart VVa][40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 and E.4 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation and heat exchange systems located at GOHT unit, identified as Unit ID 802.

(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the GOHT is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:

(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the GOHT no later than one year from the “Date of Entry” of the Consent Decree in Civil No. 2:12-CV-00207.

(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40 CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).

(d) Compressors K-901A, K-901B, K-901C, and K-902 are affected facilities pursuant to 40 CFR 60, Subpart GGGa, and the Permittee shall comply with the requirements specified in Sections E.25 and E.26 for equipment leaks of VOC from compressors for K-901A, K-901B, K-901C, K-902.

D.42.4 Wastewater / Waste Streams [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [40 CFR 60, Subpart QQQ] [326 IAC 12]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) Pursuant to 40 CFR 60, Subpart QQQ, the Permittee shall comply with the requirements specified in Section E.6 for individual drain systems, oil-water separators, and closed vent systems and control devices subject to 40 CFR 60, Subpart QQQ.

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, subpart CC and 40 CFR 60, subpart QQQ is required to comply with only the provisions of 40 CFR 63, Subpart CC specified in Section E.1.

D.42.5 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart Ja]

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the date of initial start-up, GOHT Heaters F-901A and F-901B shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60 Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for GOHT Heaters F-901A and F-901B.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, GOHT Heaters F-901A and F-901B shall be affected facilities for NO_X as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja for NO_X emissions for process heaters by the date specified in 40 CFR 60, Subpart Ja. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for GOHT Heaters F-901A and F-901B.

D.42.6 Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the control of miscellaneous process vent emissions, which are routed to the GOHT Flare and associated flare gas recovery system FGRS2. Requirements for the GOHT Flare and FGRS2 are included in Section D.35.

Compliance Determination Requirements

D.42.7 Operating Requirement

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207 and in order to demonstrate compliance with Condition D.42.2(a), the GOHT Heaters F-901A and F-901B shall operate using only ultra low- NO_X burners.

D.42.8 Consent Decree (Civil No. 2:12-CV-00207) Requirements

(a) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, fuel oil shall not be burned in the GOHT Heaters F-901A and F-901B. “Fuel Oil” shall mean any liquid fossil fuel with sulfur content of greater than 0.05% by weight.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, by no later than July 1, 2014, the total sulfur concentration of refinery fuel gas combusted in GOHT Heaters F-901A and F-901B shall not exceed 70 ppmvd total sulfur calculated as H_2S on a "12-month rolling average" basis.

D.42.9 Compliance Determination Requirements

Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, compliance with the NO_X emissions limits in Condition D.42.2(a) for Heaters F-901A and F-901B shall be calculated using 40 CFR Part 60, Appendix A, Method 19 and the NO_X concentration measured in the most recent stack test demonstrating compliance per Condition D.42.10(a).

D.42.10 Performance Testing Requirements

(a) Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the GOHT Heater F-901A, the Permittee shall perform NO_X, PM, PM10, CO, and VOC testing of GOHT Heater F-901A utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(b) Pursuant to SSM 089-32033-00453, not later than 180 days after the startup of the GOHT Heater F-901B, the Permittee shall perform NO_X, PM, PM_{10}, CO, and VOC testing of GOHT Heater F-901B utilizing methods approved by the commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

D.42.11 Continuous Emissions Monitoring

(a) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, by December 31, 2013, the Permittee shall install Total Sulfur Continuous Analyzers on the refinery fuel gas systems to continuously monitor, measure and record the total sulfur concentration of fuel gas burned in GOHT Heaters F-901A and F-901B. The Total Sulfur Continuous Analyzers shall be installed, operated and calibrated pursuant to ASTM D7166-10 and 40 CFR Part 60 Appendices A and F, and the applicable performance specification test of 40 CFR Part 60 Appendix B, except that in lieu of the requirements of 40 CFR Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, the Permittee must conduct a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each Total Sulfur Continuous Analyzer at least once every three (3) years. The Permittee must also conduct Cylinder Gas Audits each Calendar Quarter during which a RAA or a RATA is not performed. For RATA and RAA reference method comparisons, ASTM D3246-05 shall be used as the reference method. Consistent with 40 CFR § 60.107a(a)(2)(iv), the Permittee shall monitor refinery fuel gas at locations that accurately represent the total sulfur concentration in the refinery fuel gas being burned in

all heaters and boilers in the refinery, other than refinery fuel gas that would be exempt from monitoring under 40 CFR § 107a(a)(3).

(b) The Total Sulfur Continuous Analyzer shall be calibrated, maintained, and operated for determining compliance with SO_2 emissions limits for F-901A and F-901B in Conditions D.42.2(c) and D.42.8(b) in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. The SO_2 emissions shall be calculated based on the conversion of one mole of sulfur in the fuel gas to one mole of SO_2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.42.12 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.42.13 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall keep records as specified in the LDAR plan.

(b) In order to document the compliance status with Condition D.42.2, the Permittee shall maintain the records of monthly firing rates and SO_2 emissions at F-901A and F-901B.

(c) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.42.11, the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(d) Pursuant to 40 CFR 60, Subpart Ja and to document the compliance status with Condition D.42.5, the Permittee shall maintain the records specified in Section E.18.

(e) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.42.3 (b), (c) and (d), the Permittee shall maintain the records specified in Sections E.1, E.4, E.25 and E.26.

(f) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF and to document the compliance status with Condition D.42.4(a), the Permittee shall keep records as specified in Conditions E.1 and E.3.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.42.4(b), the Permittee shall keep records as specified in Section E.6.

(h) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b) and (c) of this condition.

D.42.14 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(b) In order to document the compliance status with Condition D.42.2, the Permittee shall submit a quarterly summary of the monthly firing rates and SO_2 emissions for heaters F-901A and F-901B not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

(c) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.42.2 and D.42.11, the Permittee shall submit reports of excess SO_2 emissions not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
    (A) Date of downtime.
    (B) Time of commencement.
    (C) Duration of each downtime.
    (D) Reasons for each downtime.
    (E) Nature of system repairs and adjustments

Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

(d) Pursuant to 40 CFR 60, Subpart Ja and to document the compliance status with Condition D.42.5, the Permittee shall submit reports as specified in Section E.18.

(e) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC and to document the compliance status with Conditions D.42.3(b), (c) and (d), the Permittee shall submit reports as specified in Sections E.1, E.4, E.25 and E.26.

(f) Pursuant to 40 CFR 63, Subpart CC 40 CFR 61, Subpart FF and to document the compliance status with Condition D.42.4(a), the Permittee shall submit reports as specified in Sections E.1 and E.3.

(g) Pursuant to 40 CFR 60, Subpart QQQ and to document the compliance status with Condition D.42.4(b), the Permittee shall submit reports as specified in Section E.6.

(h) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (b) and (c) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.43 FACILITY OPERATION CONDITIONS – New Hydrogen Unit

Facility Description [326 IAC 2-7-5(14)]:

(oo) The New Hydrogen Unit (New HU), identified as Unit ID 801, owned and operated by Praxair, Inc. and constructed as part of the WRMP Project, produces 99+% pure hydrogen needed for the refinery hydrotreating processes. The New HU produces high purity hydrogen by reacting steam with methane. The reaction is carried out by heating the mixture in a furnace and reacting it in the presence of a catalyst. The New HU heaters HU 1 and HU 2 are equipped with Selective Catalytic Reduction (SCR) for control of NO_X. The New HU heater stacks have continuous emissions monitors (CEMS) for NO_X and CO. The New HU includes the following sources of emissions and may include insignificant activities listed in Section A.4 of this permit:

(1) Process heaters comprising:

Heater Identification	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emissions Controls
HU-1	920	801-01	Low NO_X burners and selective catalytic reduction
HU-2	920	801-02	Low NO_X burners and selective catalytic reduction

* New HU Heaters HU 1 and HU 2 combust both natural gas and PSA tailgas with a fuel ratio of no more than 25% natural gas and the remainder PSA tailgas.

(2) One cooling tower (HU Cooling Tower) rated at 14,000 gallons per minute recirculation rate controlled by high efficiency drift eliminators.

(3) The New HU is connected to the New HU Flare system. The system is used to control VOC emissions during emergency situations, unit startups and shutdowns, and preparation of equipment for maintenance. The New HU Flare will be operated with a water seal or nitrogen purge. As such, there will be no purge gas emissions from the New HU Flare. The New HU Flare exhausts to S/V 801 03.

(4) Associated valves, pumps, compressors, pressure relief devices, sampling connection systems, open ended lines or valves, flanges or other connectors, and instrumentation and heat exchange systems.

(5) One diesel-fueled emergency generator rated at 1,214 HP.

(6) HU steam vent.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.43.1 Particulate Matter [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from each of the stacks 801-01 and 801-02 and the emergency generator shall not exceed 0.03 grains per dry standard cubic foot.

D.43.2 Prevention of Significant Deterioration [326 IAC 2-2], Nonattainment NSR [326 IAC 2-1.1-5] and Emission Offset [326 IAC 2-3]

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

For each of the two (2) heaters HU-1 and HU-2:

(a) The Permittee shall comply with the following fuel usage limits:

Unit ID	Natural gas firing rate limit (10^3 mmBTU) per 12 consecutive month period	Total Gas gas firing rate limit (10^3 mmBTU) per 12 consecutive month period
HU-1	2014.8	8059.2
HU-2	2014.8	8059.2

For the New HU Flare pilot gas:

(b) The emissions of NO_X shall not exceed 100 pounds per million cubic feet of fuel burned.

(c) The emissions of VOC shall not exceed 5.5 pounds per million cubic feet of fuel burned.

(d) The emissions of SO_2 shall not exceed 0.6 pounds per million cubic feet of fuel burned.

(e) The emissions of PM and PM_{10} shall not exceed 1.9 and 7.6 pounds per million cubic feet of fuel burned, respectively.

(f) The pilot gas used at the New HU Flare shall be limited to 2,233,800 cubic feet per 12 consecutive month period.

For the HU cooling tower:

(g) The average concentration of total dissolved solids (TDS) in the cooling water return including make up water, to the HU Cooling Tower shall not exceed an average annual concentration of 6300 mg/L per 12 consecutive month period.

(h) The emissions of PM and PM_{10} from HU Cooling Tower shall each not exceed 0.42 pounds per hour.

Pursuant to SSM 089-32033-00453, for the New HU heaters (HU-1 and HU-2), New HU Flare pilot gas, New HU Flare planned startup and shutdown events, HU steam vent, and emergency generator:

(i) The total emissions of NO_X shall not exceed 104.9 tons per 12 consecutive month period, with compliance determined at the end of each month.

(j) The total emissions of VOC shall not exceed 27.4 tons per 12 consecutive month period, with compliance determined at the end of each month.

(k) The total emissions of SO_2 shall not exceed 1.2 tons per 12 consecutive month period, with compliance determined at the end of each month.

(l) The total emissions of PM and PM_{10} shall each not exceed 54.9 tons per 12 consecutive month period, with compliance determined at the end of each month.

(m) The total emissions of CO shall not exceed 121.0 tons per 12 consecutive month period, with compliance determined at the end of each month.

Compliance with the firing rate limits and the NO_X, VOC, CO, SO_2, PM and PM_{10} emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions for NO_X, VOC, CO, SO_2, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants. Should any of the limits contained in Conditions D.43.1 and D.43.2 be exceeded, the actual emissions from the affected period must be evaluated to show that the actual net emissions increase from the WRMP project remains below the significant levels.

D.43.3 Equipment Leaks of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) [326 IAC 8-4-8] [326 IAC 20-16-1] [40 CFR 63, Subpart CC] [326 IAC 12] [40 CFR 60, Subpart GGGa]

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may require the Permittee to revise the plan.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for equipment leaks of VOCs and HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems located at the New HU, identified as Unit ID 801.

(c) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.1, E.25, and E.26 for equipment leaks of VOC and HAP from compressors and each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service.

D.43.4 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart J] [40 CFR 60, Subpart Ja]

(a) Pursuant to 40 CFR 60, Subpart J, the Permittee shall comply with the applicable requirements specified in Section E.2 for the New HU Flare.

(b) Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, the New HU heaters HU-1 and HU-2 shall be affected facilities for SO_2 as the term is used in 40 CFR 60, Subparts A and Ja, and shall be subject to and comply with the applicable requirements of 40 CFR 60, Subparts A and Ja and specified in Section E.18 for SO_2 emissions for fuel gas combustion devices. Entry of Civil No. 2:12-CV-00207 and compliance with the relevant monitoring requirements of Subpart Ja shall satisfy the notice requirements of 40 CFR § 60.7(a) and the initial performance test requirement of 40 CFR § 60.8(a) for New HU heaters HU-1 and HU-2.

(c) Upon final promulgation of 40 CFR 60, Subpart Ja, and the lifting of the administrative stay that is currently in place, the Permittee shall make a determination as to whether New HU heaters HU-1 and HU-2 are affected facilities for NO_X as that term is used in 40 CFR 60, Subpart Ja. If the Permittee determines that Subpart Ja has been triggered, the Permittee shall comply with the process heater NO_X requirements of the rule for New HU heaters HU-1 and HU-2.

D.43.5 Standards for Miscellaneous Process Vents [326 IAC 20-16-1] [40 CFR 63, Subpart CC]

Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Section E.1 for the New HU Flare relating to the control of process vents.

D.43.6 Equipment Leaks of VOC [326 IAC 12] [40 CFR 60, Subpart GGGa] and Hazardous Air Pollutants (HAPs) [40 CFR 63, Subpart CC]

(a) Pursuant to 40 CFR 60, Subpart GGGa , the Permittee shall comply with the control device standards specified in Section E.25 for the New HU Flare.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the applicable requirements specified in Sections E.1 for equipment leaks of HAP from heat exchange systems.

D.43.7 Wastewater / Waste Streams [326 IAC 14][40 CFR 61, Subpart FF]

Pursuant to 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Section E.3 for individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 61, Subpart FF.

D.43.8 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12] [40 CFR 60, Subpart IIII]

Pursuant to 40 CFR 60, Subpart IIII, the Permittee shall comply with the requirements of Section E.23 for the emergency generator.

D.43.9 National Emissions Standards for Hazardous Air Pollutants for Site Remediation [40 CFR Part 63, Subpart GGGGG]

Pursuant to 40 CFR 63, Subpart GGGGG, the Permittee shall comply with the requirements of Section E.21 for the New HU site remediation activities, including process vents, remediation management units, and other affected equipment.

D.43.10 Reciprocating Internal Combustion Engine MACT [40 CFR 63, Subpart ZZZZ]

Pursuant to 40 CFR 63, Subpart ZZZZ, the Permittee shall comply with the requirements of Section E.28 for any affected stationary internal combustion engines at the New HU.

Compliance Determination Requirements

D.43.11 Operating Requirement

(a) Pursuant to Permit SSM 089-25484-00453, issued May 1, 2008 and in order to demonstrate compliance with Condition D.43.2, the Permittee shall operate the heaters HU-1 and HU-2 using only low- NO_X burners.

(b) Pursuant to Permit SSM 089-25484-00453, issued May 1, 2008 and in order to comply with Condition D.43.2, the SCRs shall be operated as necessary to meet the NO_X emissions limits for heaters HU-1 and HU-2.

(c) Pursuant to Permit SSM 089-25484-00453, issued May 1, 2008 and in order to comply with Condition D.43.2, the liquid drift eliminator shall be in operation and control PM and PM_{10} emissions from the HU Cooling Tower at all times that HU Cooling Tower is in operation.

D.43.12 Continuous Emissions Monitoring

The CO and NO_X continuous emission monitoring systems (CEMS) for heaters HU-1 and HU-2 shall be calibrated, maintained, and operated for determining compliance with CO and NO_X emissions limits for heaters HU-1 and HU-2 in accordance with the applicable requirements in

Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.43.13 Compliance Monitoring Requirements [326 IAC 2-3]

(a) To monitor compliance with Condition D.43.2 the Permittee shall take weekly measurements of the total dissolved solids (TDS) in the water return, including make up water, to HU Cooling Tower. If the TDS limitation is exceeded, the Permittee shall perform quantitative water analyses and shall take the remedial action necessary to correct the problem.

(b) Pursuant to SSM 089-32033-00453, a continuous parameter measurement monitoring system shall be calibrated, maintained, and operated on each process vent connected to, and exhausting to the New HU Flare during startup and other process venting from heaters HU-1 and HU-2, respectively, for compiling emissions using software with inputs of duration of vent value openings plus process throughput. The output of this system shall be recorded continuously to compute the amount of emissions from the New HU Flare as per Condition D.0.1(g).

(c) Pursuant to SSM 089-32033-00453, the instruments used for determining parameter measurements mentioned in (b) above shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

(d) Pursuant to SSM 089-32033-00453, in lieu of compliance with Condition C.12(c), whenever a H_2S or Total Sulfur continuous emission monitoring system is malfunctioning on the New HU or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall measure and record Draeger tube sampling of the fuel gas one time per day until the primary CEMS or a backup CEMS is brought online.

(e) Pursuant to SSM 089-32033-00453, whenever the NO_X continuous emission monitoring system on the heaters HU-1 or HU-2 is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record unit feed rate, ammonia injection rates and exit flue gas temperature of the heater to demonstrate that the operation of the unit continues in a normal manner. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or backup CEM is brought online.

(f) Pursuant to SSM 089-32033-00453, whenever the CO continuous emission monitoring system on the heaters HU-1 or HU-2 is malfunctioning or will be down for calibration, maintenance, or repairs for more than twenty-four (24) hours, the Permittee shall monitor and record unit feed rate, exit flue gas temperature of the heater and percent oxygen at the exit flue gas of the heater to demonstrate that the operation of the unit continues in a normal manner. These parametric monitoring readings shall be recorded at least once per day until the primary CEM or a backup CEM is brought online.

(g) Pursuant to SSM 089-32033-00453, in lieu of compliance with Condition C.12(j), nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 40 CFR 60, Ja for affected process heaters HU-1 and HU-2.

(h) Pursuant to SSM 089-32033-00453, in lieu of compliance with Condition C.13(a), in the event that a breakdown of the emission monitoring equipment occurs on the New HU, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental (e.g. parametric monitoring) or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D.43 of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less often than once an hour until such time as the continuous monitor is back in operation, unless otherwise stipulated in Section C.12 or Section D.43.

D.43.14 Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

Pursuant to 326 IAC 8-4-8, the Permittee shall monitor for leaks of VOC according to the LDAR plan submitted by the Permittee.

D.43.15 Continuous Monitoring – HU Flare [326 IAC 2-2]

The H2S or Total Sulfur (if approved in an alternative monitoring plan) continuous emission monitoring systems (CEMS) for the New HU Flare shall be calibrated, maintained, and operated in accordance with the applicable requirements in Section C - Maintenance of Continuous Emission Monitoring Equipment and Section C - Maintenance of Emission Monitoring Equipment. For purposes of demonstrating compliance with Condition D.0.1, the SO_2 emissions from the New HU Flare shall be calculated as provided in Paragraph (g)(3) of Condition D.0.1 based on the conversion of one mole of sulfur in the gas to one mole of SO_2.

D.43.16 Testing Requirements

Not later than 180 days after the startup of the New Heater HU-1 or HU-2, whichever occurs first, the Permittee shall perform PM, PM10, and VOC testing of one (1) of the New Heaters (HU-1 or HU-2) utilizing methods approved by the commissioner. A total of one (1) of the two (2) New Heaters (HU-1 or HU-2) shall be tested at least once every 3 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 includes filterable and condensable PM.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.43.17 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall keep records as specified in the LDAR plan.

(b) In order to document the compliance status with Condition D.43.2, the Permittee shall maintain the records of monthly firing rates using natural gas and PSA tailgas and CO, NO_X and SO_2 emissions at heaters HU-1 and HU-2.

(c) In order to document the compliance status with Condition D.43.2, the Permittee shall maintain the records of monthly firing rates using pilot gas at the New HU Flare.

(d) To document the compliance status with Condition D.43.2, the Permittee shall maintain records of the total dissolved solids (TDS) in the water return, including make up water, to HU Cooling Tower and any remedial actions taken (including the date remedial actions were initiated).

(e) Pursuant to 326 IAC 3-5-6 and to document the compliance status with Condition D.43.12 , the Permittee shall keep the following records for the continuous emission monitors:

(1) One-minute block averages.
(2) All documentation relating to:
  (A) design, installation, and testing of all elements of the monitoring system, and
  (B) required corrective action or compliance plan activities.
(3) All maintenance logs, calibration checks, and other required quality assurance activities,
(4) All records of corrective and preventive action, and
(5) A log of plant operations, including the following:
  (A) Date of facility downtime,
  (B) Time of commencement and completion of downtime, and
  (C) Reason for each downtime.

(f) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.43.4, the Permittee shall maintain the records specified in Sections E.2 and E.18.

(g) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.43.6, the Permittee shall keep records as specified in Sections E.25.

(h) In order to document the compliance status with Condition D.0.1(g)(3), maintain software compilation of emissions using process throughput and vent valve opening duration for each process vent connected to, and exhausting to the New HU Flare during startup of heaters HU-1 and HU-2, respectively.

(i) Pursuant to 40 CFR 61, Subpart FF and to document the compliance status with Condition D.43.7, the Permittee shall keep records as specified in Section E.3.

(j) Pursuant to 40 CFR 60, Subpart IIII and to document the compliance status with Condition D.43.8, the Permittee shall keep records as specified in Sections E.23.

(k) Pursuant to 40 CFR 63, Subpart GGGGG and to document compliance status with Condition D.43.9, the Permittee shall keep records as specified in Section E.21.

(l) Pursuant to 40 CFR 63, Subpart ZZZZ and to document compliance status with Condition D.43.10, the Permittee shall keep records as specified in Section E.28.

(m) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (a), (b), (c), (d), (e) and (h) of this condition.

D.43.18 Reporting Requirements

(a) Pursuant to 326 IAC 8-4-8, the Permittee shall comply with equipment leak reporting requirements specified in the LDAR plan.

(b) In order to document the compliance status with Condition D.43.2, the Permittee shall submit a quarterly summary of the fuel usages at heaters HU-1 and HU-2 and New HU Flare and CO, NO_X, and SO_2 emissions for heaters HU-1 and HU-2 not later than thirty (30) days after the end of the quarter being reported.

(c) Pursuant to 326 IAC 3-5-7 and to document the compliance status with Conditions D.43.2 and D.43.12 , the Permittee shall submit reports of excess SO_2, CO, and NO_X emissions not later than thirty (30) days of the end of each quarter in which the excess emissions occur. The reports shall include the following:

(1) Monitored facility operation time during the reporting period,
(2) Date of excess emissions,
(3) Time of commencement and completion for each excess emission,
(4) Magnitude of each excess emission. For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, for example, one (1) hour block, three (3) hour block, three (3) hour rolling, in addition to any other reporting requirements that may be applicable.
(5) A summary itemizing the exceedances by cause.
(6) Continuous Monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:
(A) Date of downtime.
(B) Time of commencement.
(C) Duration of each downtime.
(D) Reasons for each downtime.
(E) Nature of system repairs and adjustments

(d) Pursuant to 40 CFR 60, Subparts J and Ja and to document the compliance status with Condition D.43.4, the Permittee shall submit reports as specified in Sections E.2 and E.18.

(e) Pursuant to 40 CFR 60, Subpart GGGa and to document the compliance status with Condition D.43.6, the Permittee shall submit reports as specified in Sections E.25.

(f) Pursuant to 40 CFR 61, Subpart FF and to document the compliance status with Condition D.43.7, the Permittee shall submit reports as specified in Section E.3.

(g) Pursuant to 40 CFR 60, Subpart IIII and to document the compliance status with Condition D.43.8, the Permittee shall submit reports as specified in Sections E.23.

(h) Pursuant to 40 CFR 63, Subpart GGGGG and to document compliance status with Condition D.43.9, the Permittee shall submit reports as specified in Section E.21.

(i) Pursuant to 40 CFR 63, Subpart ZZZZ and to document compliance status with Condition D.43.10, the Permittee shall submit reports as specified in Section E.28.

(j) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraphs (a), (b) and (c) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

SECTION D.44 RESERVED

SECTION D.45 FACILITY OPERATION CONDITIONS – Firepump Engines and Concrete Crusher

Facility Description [326 IAC 2-7-5(14)]:

Insignificant Activity:

(ff) Three (3) emergency firepump engines, identified as Firepump 1, 2 and 3, per SPM 089-25488-00453, one rated at 359 HP and two rated at 460 HP.

(gg) One (1) concrete crushing process, per SPM 089-25488-00453, with a maximum processing capacity of 120 tons per hour, having two (2) transfer points.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.45.1 Particulate Matter Emissions - Lake County [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2(a), the particulate matter emissions from Firepump 1, Firepump 2, Firepump 3 and the concrete crushing operation shall not exceed 0.03 gr/dscf.

D.45.2 Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) The hours of operation for each of the three firepump engines shall not exceed 500 hours per year.

(b) The total amount of concrete processed by the concrete crusher shall not exceed 18,000 tons.

Compliance with the emissions limits at the three firepumps and the other units at this source, shall ensure that the net emissions increases, including fugitive emissions for NO_X, VOC, CO, SO_2, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

D.45.3 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR 60, Subpart IIII, the Permitee shall comply with the requirements of Section E.23 for emergency generators and emergency fire pumps.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.45.4 Record Keeping Requirements

Pursuant to 40 CFR 60, Subpart IIII, the Permittee shall keep records as specified in Section E.23.

D.45.5 Reporting Requirements

Pursuant to 40 CFR 60, Subpart IIII, the Permittee shall submit reports as specified in Section E.23.

SECTION E.1 40 CFR Part 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants For Petroleum Refineries

E.1.1 General Provisions Relating to NESHAP Subpart CC [40 CFR Part 63, Subpart CC] [326 IAC 20-1]

Pursuant to 40 CFR 63.640, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, as specified in Table 6 of 40 CFR Part 63, Subpart CC in accordance with the schedule in 40 CFR Part 63, Subpart CC.

E.1.2 NESHAP Subpart CC Requirements [40 CFR Part 63, Subpart CC] [326 IAC 20-16]

Pursuant to 40 CFR 63.640, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart CC, which are incorporated by reference in 326 IAC 20-16, for all affected storage tanks, process vents, wastewater streams and wastewater treatment operations, equipment leaks, gasoline loading racks, and marine vessel loading operations:

§63.640 Applicability and designation of affected source.

(a) This subpart applies to petroleum refining process units and to related emission points that are specified in paragraphs (c)(5) through (c)(7) of this section that are located at a plant site that meet the criteria in paragraphs (a)(1) and (a)(2) of this section;

(1) Are located at a plant site that is a major source as defined in section 112(a) of the Clean Air Act; and

(2) Emit or have equipment containing or contacting one or more of the hazardous air pollutants listed in table 1 of this subpart.

(c) For the purpose of this subpart, the affected source shall comprise all emission points, in combination, listed in paragraphs (c)(1) through (c)(7) of this section that are located at a single refinery plant site.

(1) All miscellaneous process vents from petroleum refining process units meeting the criteria in paragraph (a) of this section;

(2) All storage vessels associated with petroleum refining process units meeting the criteria in paragraph (a) of this section;

(3) All wastewater streams and treatment operations associated with petroleum refining process units meeting the criteria in paragraph (a) of this section;

(4) All equipment leaks from petroleum refining process units meeting the criteria in paragraph (a) of this section;

(5) All gasoline loading racks classified under Standard Industrial Classification code 2911 meeting the criteria in paragraph (a) of this section;

(6) All marine vessel loading operations located at a petroleum refinery meeting the criteria in paragraph (a) of this section and the applicability criteria of subpart Y, §63.560; and

(7) All storage vessels and equipment leaks associated with a bulk gasoline terminal or pipeline breakout station classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a refinery meeting the criteria in paragraph (a) of this section.

(d) The affected source subject to this subpart does not include the emission points listed in paragraphs (d)(1) through (d)(5) of this section.

(1) Stormwater from segregated stormwater sewers;

(2) Spills;

(3) Any pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, or instrumentation system that is intended to operate in organic hazardous air pollutant service, as defined in §63.641 of this subpart, for less than 300 hours during the calendar year;

(4) Catalytic cracking unit and catalytic reformer catalyst regeneration vents, and sulfur plant vents; and

(5) Emission points routed to a fuel gas system, as defined in §63.641 of this subpart. No testing, monitoring, recordkeeping, or reporting is required for refinery fuel gas systems or emission points routed to refinery fuel gas systems.

(e) The owner or operator shall follow the procedures specified in paragraphs (e)(1) and (e)(2) of this section to determine whether a storage vessel is part of a source to which this subpart applies.

(1) Where a storage vessel is used exclusively by a process unit, the storage vessel shall be considered part of that process unit.

(i) If the process unit is a petroleum refining process unit subject to this subpart, then the storage vessel is part of the affected source to which this subpart applies.

(ii) If the process unit is not subject to this subpart, then the storage vessel is not part of the affected source to which this subpart applies.

(2) If a storage vessel is not dedicated to a single process unit, then the applicability of this subpart shall be determined according to the provisions in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.

(i) If a storage vessel is shared among process units and one of the process units has the predominant use, as determined by paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section, then the storage vessel is part of that process unit.

(A) If the greatest input on a volume basis into the storage vessel is from a process unit that is located on the same plant site, then that process unit has the predominant use.

(B) If the greatest input on a volume basis into the storage vessel is provided from a process unit that is not located on the same plant site, then the predominant use shall be the process unit that receives the greatest amount of material on a volume basis from the storage vessel at the same plant site.

(ii) If a storage vessel is shared among process units so that there is no single predominant use, and at least one of those process units is a petroleum refining process unit subject to this subpart, the storage vessel shall be considered to be part of the petroleum refining process unit that is subject to this subpart. If more than one petroleum refining process unit is subject to this subpart, the owner or operator may assign the storage vessel to any of the petroleum refining process units subject to this subpart.

(iii) If the predominant use of a storage vessel varies from year to year, then the applicability of this subpart shall be determined based on the utilization of that storage vessel during the year preceding promulgation of this subpart. This determination shall be reported as specified in §63.654(h)(6)(ii) of this subpart.

(f) The owner or operator shall follow the procedures specified in paragraphs (f)(1) through (f)(5) of this section to determine whether a miscellaneous process vent from a distillation unit is part of a source to which this subpart applies.

(1) If the greatest input to the distillation unit is from a process unit located on the same plant site, then the distillation unit shall be assigned to that process unit.

(2) If the greatest input to the distillation unit is provided from a process unit that is not located on the same plant site, then the distillation unit shall be assigned to the process unit located at the same plant site that receives the greatest amount of material from the distillation unit.

(3) If a distillation unit is shared among process units so that there is no single predominant use, as described in paragraphs (f)(1) and (f)(2) of this section, and at least one of those process units is a petroleum refining process unit subject to this subpart, the distillation unit shall be assigned to the petroleum refining process unit that is subject to this subpart. If more than one petroleum refining process unit is subject to this subpart, the owner or operator may assign the distillation unit to any of the petroleum refining process units subject to this rule.

(4) If the process unit to which the distillation unit is assigned is a petroleum refining process unit subject to this subpart and the vent stream contains greater than 20 parts per million by volume total organic hazardous air pollutants, then the vent from the distillation unit is considered a miscellaneous process vent (as defined in §63.641 of this subpart) and is part of the source to which this subpart applies.

(5) If the predominant use of a distillation unit varies from year to year, then the applicability of this subpart shall be determined based on the utilization of that distillation unit during the year preceding promulgation of this subpart. This determination shall be reported as specified in §63.654(h)(6)(iii).

(g) The provisions of this subpart do not apply to the processes specified in paragraphs (g)(1) through (g)(7) of this section.

(1) Research and development facilities, regardless of whether the facilities are located at the same plant site as a petroleum refining process unit that is subject to the provisions of this subpart;

(2) Equipment that does not contain any of the hazardous air pollutants listed in table 1 of this subpart that is located within a petroleum refining process unit that is subject to this subpart;

(3) Units processing natural gas liquids;

(4) Units that are used specifically for recycling discarded oil;

(5) Shale oil extraction units;

(6) Ethylene processes; and

(7) Process units and emission points subject to subparts F, G, H, and I of this part.

(h) Except as provided in paragraphs (k), (l), or (m) of this section, sources subject to this subpart are required to achieve compliance on or before the dates specified in paragraphs (h)(1) through (h)(4) of this section.

(1) New sources that commence construction or reconstruction after July 14, 1994 shall be in compliance with this subpart upon initial startup or the date of promulgation of this subpart, whichever is later, as provided in §63.6(b) of subpart A of this part.

(2) Except as provided in paragraphs (h)(3) through (h)(5) of this section, existing sources shall be in compliance with this subpart no later than August 18, 1998, except as provided in §63.6(c) of subpart A of this part, or unless an extension has been granted by the Administrator as provided in §63.6(i) of subpart A of this part.

(3) Marine tank vessels at existing sources shall be in compliance with this subpart no later than August 18, 1999 unless the vessels are included in an emissions average to generate emission credits. Marine tank vessels used to generate credits in an emissions average shall be in compliance with this subpart no later than August 18, 1998 unless an extension has been granted by the Administrator as provided in §63.6(i).

(4) Existing Group 1 floating roof storage vessels shall be in compliance with §63.646 at the first degassing and cleaning activity after August 18, 1998, or within 10 years after promulgation of the rule, whichever is first.

(5) An owner or operator may elect to comply with the provisions of §63.648 (c) through (i) as an alternative to the provisions of §63.648 (a) and (b). In such cases, the owner or operator shall comply no later than the dates specified in paragraphs (h)(5)(i) through (h)(5)(iii) of this section.

(i) Phase I (see table 2 of this subpart), beginning on August 18, 1998;

(ii) Phase II (see table 2 of this subpart), beginning no later than August 18, 1999; and

(iii) Phase III (see table 2 of this subpart), beginning no later than February 18, 2001.

(i) If an additional petroleum refining process unit is added to a plant site that is a major source as defined in section 112(a) of the Clean Air Act, the addition shall be subject to the requirements for a new source if it meets the criteria specified in paragraphs (i)(1) through (i)(3) of this section:

(1) It is an addition that meets the definition of construction in §63.2 of subpart A of this part;

(2) Such construction commenced after July 14, 1994; and

(3) The addition has the potential to emit 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

(j) If any change is made to a petroleum refining process unit subject to this subpart, the change shall be subject to the requirements for a new source if it meets the criteria specified in paragraphs (j)(1) and (j)(2) of this section:

(1) It is a change that meets the definition of reconstruction in §63.2 of subpart A of this part; and

(2) Such reconstruction commenced after July 14, 1994.

(k) If an additional petroleum refining process unit is added to a plant site or a change is made to a petroleum refining process unit and the addition or change is determined to be subject to the new source requirements according to paragraphs (i) or (j) of this section it must comply with the requirements specified in paragraphs (k)(1) and (k)(2) of this section:

(1) The reconstructed source, addition, or change shall be in compliance with the new source requirements upon initial startup of the reconstructed source or by the date of promulgation of this subpart, whichever is later; and

(2) The owner or operator of the reconstructed source, addition, or change shall comply with the reporting and recordkeeping requirements that are applicable to new sources. The applicable reports include, but are not limited to:

(i) The application for approval of construction or reconstruction shall be submitted as soon as practical before the construction or reconstruction is planned to commence (but it need not be sooner than 90 days after the date of promulgation of this subpart);

(ii) The Notification of Compliance Status report as required by §63.654(f) for a new source, addition, or change;

(iii) Periodic Reports and Other Reports as required by §63.654 (g) and (h);

(iv) Reports and notifications required by §60.487 of subpart VV of part 60 or §63.182 of subpart H of this part. The requirements for subpart H are summarized in table 3 of this subpart;

(v) Reports required by 40 CFR 61.357 of subpart FF;

(vi) Reports and notifications required by §63.428 (b), (c), (g)(1), and (h)(1) through (h)(3) of subpart R. These requirements are summarized in table 4 of this subpart; and

(vii) Reports and notifications required by §§63.565 and 63.567 of subpart Y of this part. These requirements are summarized in table 5 of this subpart.

(l) If an additional petroleum refining process unit is added to a plant site or if a miscellaneous process vent, storage vessel, gasoline loading rack, or marine tank vessel loading operation that meets the criteria in paragraphs (c)(1) through (c)(7) of this section is added to an existing petroleum refinery or if another deliberate operational process change creating an additional Group 1 emission point(s) (as defined in §63.641) is made to an existing petroleum refining process unit, and if the addition or process change is not subject to the new source requirements as determined according to paragraphs (i) or (j) of this section, the requirements in paragraphs (l)(1) through (l)(3) of this section shall apply. Examples of process changes include, but are not limited to, changes in production capacity, or feed or raw material where the change requires construction or physical alteration of the existing equipment or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph and paragraph (m) of this section, process changes do not include: Process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status report required by §63.654(f).

(1) The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit are subject to the requirements for an existing source.

(2) The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit shall be in compliance with this subpart by the dates specified in paragraphs (l)(2)(i) or (l)(2)(ii) of this section, as applicable.

(i) If a petroleum refining process unit is added to a plant site or an emission point(s) is added to any existing petroleum refining process unit, the added emission point(s) shall be in compliance upon initial startup of any added petroleum refining process unit or emission point(s) or by 3 years after the date of promulgation of this subpart, whichever is later.

(ii) If a deliberate operational process change to an existing petroleum refining process unit causes a Group 2 emission point to become a Group 1 emission point (as defined in §63.641), the owner or operator shall be in compliance upon initial startup or by 3 years after the date of promulgation of this subpart, whichever is later, unless the owner or operator demonstrates to the Administrator that achieving compliance will take longer than making the change. If this demonstration is made to the Administrator's satisfaction, the owner or operator shall follow the procedures in paragraphs (m)(1) through (m)(3) of this section to establish a compliance date.

(3) The owner or operator of a petroleum refining process unit or of a storage vessel, miscellaneous process vent, wastewater stream, gasoline loading rack, or marine tank vessel loading operation meeting the criteria in paragraphs (c)(1) through (c)(7) of this section that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements that are applicable to existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (l)(3)(vii) of this section. A process change to an existing petroleum refining process unit shall be subject to the reporting requirements for existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (l)(3)(vii) of this section. The applicable reports include, but are not limited to:

(i) The Notification of Compliance Status report as required by §63.654(f) for the emission points that were added or changed;

(ii) Periodic Reports and other reports as required by §63.654 (g) and (h);

(iii) Reports and notifications required by sections of subpart A of this part that are applicable to this subpart, as identified in table 6 of this subpart.

(iv) Reports and notifications required by §63.182, or 40 CFR 60.487. The requirements of subpart H of this part are summarized in table 3 of this subpart;

(v) Reports required by §61.357 of subpart FF;

(vi) Reports and notifications required by §63.428 (b), (c), (g)(1), and (h)(1) through (h)(3) of subpart R of this part. These requirements are summarized in table 4 of this subpart; and

(vii) Reports and notifications required by §63.567 of subpart Y of this part. These requirements are summarized in table 5 of this subpart.

(4) If pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation systems are added to an existing source, they are subject to the equipment leak standards for existing sources in §63.648. A notification of compliance status report shall not be required for such added equipment.

(m) If a change that does not meet the criteria in paragraph (l) of this section is made to a petroleum refining process unit subject to this subpart, and the change causes a Group 2 emission point to become a Group 1 emission point (as defined in §63.641), then the owner or operator shall comply with the requirements of this subpart for existing sources for the Group 1 emission point as expeditiously as practicable, but in no event later than 3 years after the emission point becomes Group 1.

(1) The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(2) The compliance schedule shall be submitted within 180 days after the change is made, unless the compliance schedule has been previously submitted to the permitting authority. If it is not possible to determine until after the change is implemented whether the emission point has become Group 1, the compliance schedule shall be submitted within 180 days of the date when the affect of the change is known to the source. The compliance schedule may be submitted in the next Periodic Report if the change is made after the date the Notification of Compliance Status report is due.

(3) The Administrator shall approve or deny the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification. Approval is automatic if not received from the Administrator within 120 calendar days of receipt.

(n) Overlap of subpart CC with other regulations for storage vessels.

(1) After the compliance dates specified in paragraph (h) of this section, a Group 1 or Group 2 storage vessel that is part of an existing source and is also subject to the provisions of 40 CFR part 60, subpart Kb, is required to comply only with the requirements of 40 CFR part 60, subpart Kb, except as provided in paragraph (n)(8) of this section.

(2) After the compliance dates specified in paragraph (h) of this section a Group 1 storage vessel that is part of a new source and is subject to 40 CFR part 60, subpart Kb is required to comply only with this subpart.

(3) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is part of a new source and is subject to the control requirements in §60.112b of 40 CFR part 60, subpart Kb is required to comply only with 40 CFR part 60, subpart Kb except as provided in paragraph (n)(8) of this section.

(4) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is part of a new source and is subject to 40 CFR 60.110b, but is not required to apply controls by 40 CFR 60.110b or 60.112b is required to comply only with this subpart.

(5) After the compliance dates specified in paragraph (h) of this section a Group 1 storage vessel that is also subject to the provisions of 40 CFR part 60, subparts K or Ka is required to only comply with the provisions of this subpart.

(6) After compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is subject to the control requirements of 40 CFR part 60, subparts K or Ka is required to comply only with the provisions of 40 CFR part 60, subparts K or Ka except as provided for in paragraph (n)(9) of this section.

(7) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is subject to 40 CFR part 60, subparts K or Ka, but not to the control requirements of 40 CFR part 60, subparts K or Ka, is required to comply only with this subpart.

(8) Storage vessels described by paragraphs (n)(1) and (n)(3) of this section are to comply with 40 CFR part 60, subpart Kb except as provided for in paragraphs (n)(8)(i) through (n)(8)(vi) of this section.

(i) Storage vessels that are to comply with §60.112b(a)(2) of subpart Kb are exempt from the secondary seal requirements of §60.112b(a)(2)(i)(B) during the gap measurements for the primary seal required by §60.113b(b) of subpart Kb.

(ii) If the owner or operator determines that it is unsafe to perform the seal gap measurements required in §60.113b(b) of subpart Kb or to inspect the vessel to determine compliance with §60.113b(a) of subpart Kb because the roof appears to be structurally unsound and poses an imminent danger to inspecting personnel, the owner or operator shall comply with the requirements in either §63.120(b)(7)(i) or §63.120(b)(7)(ii) of subpart G.

(iii) If a failure is detected during the inspections required by §60.113b(a)(2) or during the seal gap measurements required by §60.113b(b)(1), and the vessel cannot be repaired within 45 days and the vessel cannot be emptied within 45 days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. The owner or operator is not required to provide a request for the extension to the Administrator.

(iv) If an extension is utilized in accordance with paragraph (n)(8)(iii) of this section, the owner or operator shall, in the next periodic report, identify the vessel, provide the information listed in §60.113b(a)(2) or §60.113b(b)(4)(iii), and describe the nature and date of the repair made or provide the date the storage vessel was emptied.

(v) Owners and operators of storage vessels complying with subpart Kb of part 60 may submit the inspection reports required by §§60.115b(a)(3), (a)(4), and (b)(4) of subpart Kb as part of the periodic reports required by this subpart, rather than within the 30-day period specified in §§60.115b(a)(3), (a)(4), and (b)(4) of subpart Kb.

(vi) The reports of rim seal inspections specified in §60.115b(b)(2) are not required if none of the measured gaps or calculated gap areas exceed the limitations specified in §60.113b(b)(4). Documentation of the inspections shall be recorded as specified in §60.115b(b)(3).

(9) Storage vessels described by paragraph (n)(6) of this section that are to comply with 40 CFR part 60, subpart Ka, are to comply with only subpart Ka except as provided for in paragraphs (n)(9)(i) through (n)(9)(iv) of this section.

(i) If the owner or operator determines that it is unsafe to perform the seal gap measurements required in §60.113a(a)(1) of subpart Ka because the floating roof appears to be structurally unsound and poses an

imminent danger to inspecting personnel, the owner or operator shall comply with the requirements in either §63.120(b)(7)(i) or §63.120(b)(7)(ii) of subpart G.

(ii) If a failure is detected during the seal gap measurements required by §60.113a(a)(1) of subpart Ka, and the vessel cannot be repaired within 45 days and the vessel cannot be emptied within 45 days, the owner or operator may utilize up to 2 extensions of up to 30 additional calendar days each.

(iii) If an extension is utilized in accordance with paragraph (n)(9)(ii) of this section, the owner or operator shall, in the next periodic report, identify the vessel, describe the nature and date of the repair made or provide the date the storage vessel was emptied. The owner or operator shall also provide documentation of the decision to utilize an extension including a description of the failure, documentation that alternate storage capacity is unavailable, and a schedule of actions that will ensure that the control equipment will be repaired or the vessel emptied as soon as possible.

(iv) Owners and operators of storage vessels complying with subpart Ka of part 60 may submit the inspection reports required by §60.113a(a)(1)(i)(E) of subpart Ka as part of the periodic reports required by this subpart, rather than within the 60-day period specified in §60.113a(a)(1)(i)(E) of subpart Ka.

(o) Overlap of this subpart CC with other regulations for wastewater.

(1) After the compliance dates specified in paragraph (h) of this section a Group 1 wastewater stream managed in a piece of equipment that is also subject to the provisions of 40 CFR part 60, subpart QQQ is required to comply only with this subpart.

(p) Overlap of subpart CC with other regulations for equipment leaks. After the compliance dates specified in paragraph (h) of this section equipment leaks that are also subject to the provisions of 40 CFR parts 60 and 61 are required to comply only with the provisions specified in this subpart.

(q) For overlap of subpart CC with local or State regulations, the permitting authority for the affected source may allow consolidation of the monitoring, recordkeeping, and reporting requirements under this subpart with the monitoring, recordkeeping, and reporting requirements under other applicable requirements in 40 CFR parts 60, 61, or 63, and in any 40 CFR part 52 approved State implementation plan provided the implementation plan allows for approval of alternative monitoring, reporting, or recordkeeping requirements and provided that the permit contains an equivalent degree of compliance and control.

(r) Overlap of subpart CC with other regulations for gasoline loading racks. After the compliance dates specified in paragraph (h) of this section, a Group 1 gasoline loading rack that is part of a source subject to subpart CC and also is subject to the provisions of 40 CFR part 60, subpart XX is required to comply only with this subpart.

§ 63.641 Definitions.

All terms used in this subpart shall have the meaning given them in the Clean Air Act, subpart A of this part, and in this section. If the same term is defined in subpart A and in this section, it shall have the meaning given in this section for purposes of this subpart.

Affected source means the collection of emission points to which this subpart applies as determined by the criteria in §63.640.

Aliphatic means open-chained structure consisting of paraffin, olefin and acetylene hydrocarbons and derivatives.

Annual average true vapor pressure means the equilibrium partial pressure exerted by the stored liquid at the temperature equal to the annual average of the liquid storage temperature for liquids stored above or below the ambient temperature or at the local annual average temperature reported by the National Weather Service for liquids stored at the ambient temperature, as determined:

(1) In accordance with methods specified in §63.111 of subpart G of this part;

(2) From standard reference texts; or

(3) By any other method approved by the Administrator.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator.

By compound means by individual stream components, not by carbon equivalents.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Closed vent system means a system that is not open to the atmosphere and is configured of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device or back into the process. If gas or vapor from regulated equipment is routed to a process (e.g., to a petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to closed vent system standards.

Combustion device means an individual unit of equipment such as a flare, incinerator, process heater, or boiler used for the combustion of organic hazardous air pollutant vapors.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are accessible.

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every hour and recorded at the frequency specified in §63.654(i).

Continuous recorder means a data recording device recording an instantaneous data value or an average data value at least once every hour.

Control device means any equipment used for recovering, removing, or oxidizing organic hazardous air pollutants. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For miscellaneous process vents (as defined in this section), recovery devices (as defined in this section) are not considered control devices.

Delayed coker vent means a vent that is typically intermittent in nature, and usually occurs only during the initiation of the depressuring cycle of the decoking operation when vapor from the coke drums cannot be sent to the fractionator column for product recovery, but instead is routed to the atmosphere through a closed blowdown system or directly to the atmosphere in an open blowdown system. The emissions from the decoking phases of delayed coker operations, which include coke drum deheading, draining, or decoking (coke cutting), are not considered to be delayed coker vents.

Distillate receiver means overhead receivers, overhead accumulators, reflux drums, and condenser(s) including ejector-condenser(s) associated with a distillation unit.

Distillation unit means a device or vessel in which one or more feed streams are separated into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and the vapor phases by vaporization and condensation as they approach equilibrium within the distillation unit. Distillation unit includes the distillate receiver, reboiler, and any associated vacuum pump or steam jet.

Emission point means an individual miscellaneous process vent, storage vessel, wastewater stream, or equipment leak associated with a petroleum refining process unit; an individual storage vessel or

equipment leak associated with a bulk gasoline terminal or pipeline breakout station classified under Standard Industrial Classification code 2911; a gasoline loading rack classified under Standard Industrial Classification code 2911; or a marine tank vessel loading operation located at a petroleum refinery.

Equipment leak means emissions of organic hazardous air pollutants from a pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, or instrumentation system “in organic hazardous air pollutant service” as defined in this section. Vents from wastewater collection and conveyance systems (including, but not limited to wastewater drains, sewer vents, and sump drains), tank mixers, and sample valves on storage tanks are not equipment leaks.

Flame zone means the portion of a combustion chamber of a boiler or process heater occupied by the flame envelope created by the primary fuel.

Flexible operation unit means a process unit that manufactures different products periodically by alternating raw materials or operating conditions. These units are also referred to as campaign plants or blocked operations.

Flow indicator means a device that indicates whether gas is flowing, or whether the valve position would allow gas to flow, in a line.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous streams generated by refinery operations, may blend them with sources of gas, if available, and transports the blended gaseous fuel at suitable pressures for use as fuel in heaters, furnaces, boilers, incinerators, gas turbines, and other combustion devices located within or outside of the refinery. The fuel is piped directly to each individual combustion device, and the system typically operates at pressures over atmospheric. The gaseous streams can contain a mixture of methane, light hydrocarbons, hydrogen and other miscellaneous species.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater that is used as a fuel for internal combustion engines.

Gasoline loading rack means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill gasoline cargo tanks.

Group 1 gasoline loading rack means any gasoline loading rack classified under Standard Industrial Classification code 2911 that is located within a bulk gasoline terminal that has a gasoline throughput greater than 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput for the terminal as may be limited by compliance with enforceable conditions under Federal, State, or local law and discovered by the Administrator and any other person.

Group 1 marine tank vessel means a vessel at an existing source loaded at any land- or sea-based terminal or structure that loads liquid commodities with vapor pressures greater than or equal to 10.3 kilopascals in bulk onto marine tank vessels, that emits greater than 9.1 megagrams of any individual HAP or 22.7 megagrams of any combination of HAP annually after August 18, 1999, or a vessel at a new source loaded at any land- or sea-based terminal or structure that loads liquid commodities with vapor pressures greater than or equal to 10.3 kilopascals onto marine tank vessels.

Group 1 miscellaneous process vent means a miscellaneous process vent for which the total organic HAP concentration is greater than or equal to 20 parts per million by volume, and the total volatile organic compound emissions are greater than or equal to 33 kilograms per day for existing sources and 6.8 kilograms per day for new sources at the outlet of the final recovery device (if any) and prior to any control device and prior to discharge to the atmosphere.

Group 1 storage vessel means a storage vessel at an existing source that has a design capacity greater than or equal to 177 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 10.4 kilopascals and stored-liquid annual average true vapor pressure greater than or equal to 8.3 kilopascals and annual average HAP liquid concentration greater than 4 percent by weight total organic

HAP; a storage vessel at a new source that has a design storage capacity greater than or equal to 151 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 3.4 kilopascals and annual average HAP liquid concentration greater than 2 percent by weight total organic HAP; or a storage vessel at a new source that has a design storage capacity greater than or equal to 76 cubic meters and less than 151 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 77 kilopascals and annual average HAP liquid concentration greater than 2 percent by weight total organic HAP.

Group 1 wastewater stream means a wastewater stream at a petroleum refinery with a total annual benzene loading of 10 megagrams per year or greater as calculated according to the procedures in 40 CFR 61.342 of subpart FF of part 61 that has a flow rate of 0.02 liters per minute or greater, a benzene concentration of 10 parts per million by weight or greater, and is not exempt from control requirements under the provisions of 40 CFR part 61, subpart FF.

Group 2 gasoline loading rack means a gasoline loading rack classified under Standard Industrial Classification code 2911 that does not meet the definition of a Group 1 gasoline loading rack.

Group 2 marine tank vessel means a marine tank vessel that does not meet the definition of a Group 1 marine tank vessel.

Group 2 miscellaneous process vent means a miscellaneous process vent that does not meet the definition of a Group 1 miscellaneous process vent.

Group 2 storage vessel means a storage vessel that does not meet the definition of a Group 1 storage vessel.

Group 2 wastewater stream means a wastewater stream that does not meet the definition of Group 1 wastewater stream.

Hazardous air pollutant or *HAP* means one of the chemicals listed in section 112(b) of the Clean Air Act.

Incinerator means an enclosed combustion device that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures. Any energy recovery section present is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in §60.593(d) of part 60, subpart GGG.

In organic hazardous air pollutant service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of §63.180(d) of subpart H of this part and table 1 of this subpart. The provisions of §63.180(d) of subpart H also specify how to determine that a piece of equipment is not in organic HAP service.

Leakless valve means a valve that has no external actuating mechanism.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the stored liquid at the temperature equal to the highest calendar-month average of the liquid storage temperature for liquids stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored at the ambient temperature, as determined:

(1) In accordance with methods specified in §63.111 of subpart G of this part;

(2) From standard reference texts; or

(3) By any other method approved by the Administrator.

Miscellaneous process vent means a gas stream containing greater than 20 parts per million by volume organic HAP that is continuously or periodically discharged during normal operation of a petroleum refining process unit meeting the criteria specified in §63.640(a). Miscellaneous process vents include gas streams that are discharged directly to the atmosphere, gas streams that are routed to a control device prior to discharge to the atmosphere, or gas streams that are diverted through a product recovery device prior to control or discharge to the atmosphere. Miscellaneous process vents include vent streams from: caustic wash accumulators, distillation tower condensers/accumulators, flash/knockout drums, reactor vessels, scrubber overheads, stripper overheads, vacuum (steam) ejectors, wash tower overheads, water wash accumulators, blowdown condensers/accumulators, and delayed coker vents. Miscellaneous process vents do not include:

(1) Gaseous streams routed to a fuel gas system;

(2) Relief valve discharges;

(3) Leaks from equipment regulated under §63.648;

(4) Episodic or nonroutine releases such as those associated with startup, shutdown, malfunction, maintenance, depressuring, and catalyst transfer operations;

(5) In situ sampling systems (onstream analyzers);

(6) Catalytic cracking unit catalyst regeneration vents;

(7) Catalytic reformer regeneration vents;

(8) Sulfur plant vents;

(9) Vents from control devices such as scrubbers, boilers, incinerators, and electrostatic precipitators applied to catalytic cracking unit catalyst regeneration vents, catalytic reformer regeneration vents, and sulfur plant vents;

(10) Vents from any stripping operations applied to comply with the wastewater provisions of this subpart, subpart G of this part, or 40 CFR part 61, subpart FF;

(11) Coking unit vents associated with coke drum depressuring at or below a coke drum outlet pressure of 15 pounds per square inch gauge, deheading, draining, or decoking (coke cutting) or pressure testing after decoking;

(12) Vents from storage vessels;

(13) Emissions from wastewater collection and conveyance systems including, but not limited to, wastewater drains, sewer vents, and sump drains; and

(14) Hydrogen production plant vents through which carbon dioxide is removed from process streams or through which steam condensate produced or treated within the hydrogen plant is degassed or deaerated.

Operating permit means a permit required by 40 CFR parts 70 or 71.

Organic hazardous air pollutant or *organic HAP* in this subpart, means any of the organic chemicals listed in table 1 of this subpart.

Petroleum-based solvents means mixtures of aliphatic hydrocarbons or mixtures of one and two ring aromatic hydrocarbons.

Periodically discharged means discharges that are intermittent and associated with routine operations. Discharges associated with maintenance activities or process upsets are not considered periodically discharged miscellaneous process vents and are therefore not regulated by the petroleum refinery miscellaneous process vent provisions.

Petroleum refining process unit means a process unit used in an establishment primarily engaged in petroleum refining as defined in the Standard Industrial Classification code for petroleum refining (2911), and used primarily for the following:

(1) Producing transportation fuels (such as gasoline, diesel fuels, and jet fuels), heating fuels (such as kerosene, fuel gas distillate, and fuel oils), or lubricants;

(2) Separating petroleum; or

(3) Separating, cracking, reacting, or reforming intermediate petroleum streams.

(4) Examples of such units include, but are not limited to, petroleum-based solvent units, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, lube oil processing, hydrogen production, isomerization, polymerization, thermal processes, and blending, sweetening, and treating processes. Petroleum refining process units also include sulfur plants.

Plant site means all contiguous or adjoining property that is under common control including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Primary fuel means the fuel that provides the principal heat input (i.e., more than 50 percent) to the device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process heater means an enclosed combustion device that primarily transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water.

Process unit means the equipment assembled and connected by pipes or ducts to process raw and/or intermediate materials and to manufacture an intended product. A process unit includes any associated storage vessels. For the purpose of this subpart, process unit includes, but is not limited to, chemical manufacturing process units and petroleum refining process units.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not considered a process unit shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, or would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown is not considered a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not considered process unit shutdowns.

Recovery device means an individual unit of equipment capable of and used for the purpose of recovering chemicals for use, reuse, or sale. Recovery devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.

Reference control technology for gasoline loading racks means a vapor collection and processing system used to reduce emissions due to the loading of gasoline cargo tanks to 10 milligrams of total organic compounds per liter of gasoline loaded or less.

Reference control technology for marine vessels means a vapor collection system and a control device that reduces captured HAP emissions by 97 percent.

Reference control technology for miscellaneous process vents means a combustion device used to reduce organic HAP emissions by 98 percent, or to an outlet concentration of 20 parts per million by volume.

Reference control technology for storage vessels means either:

(1) An internal floating roof meeting the specifications of §63.119(b) of subpart G except for §63.119 (b)(5) and (b)(6);

(2) An external floating roof meeting the specifications of §63.119(c) of subpart G except for §63.119(c)(2);

(3) An external floating roof converted to an internal floating roof meeting the specifications of §63.119(d) of subpart G except for §63.119(d)(2); or

(4) A closed-vent system to a control device that reduces organic HAP emissions by 95-percent, or to an outlet concentration of 20 parts per million by volume.

(5) For purposes of emissions averaging, these four technologies are considered equivalent.

Reference control technology for wastewater means the use of:

(1) Controls specified in §§61.343 through 61.347 of subpart FF of part 61;

(2) A treatment process that achieves the emission reductions specified in table 7 of this subpart for each individual HAP present in the wastewater stream or is a steam stripper that meets the specifications in §63.138(g) of subpart G of this part; and

(3) A control device to reduce by 95 percent (or to an outlet concentration of 20 parts per million by volume for combustion devices) the organic HAP emissions in the vapor streams vented from treatment processes (including the steam stripper described in paragraph (2) of this definition) managing wastewater.

Refinery fuel gas means a gaseous mixture of methane, light hydrocarbons, hydrogen, and other miscellaneous species (nitrogen, carbon dioxide, hydrogen sulfide, etc.) that is produced in the refining of crude oil and/or petrochemical processes and that is separated for use as a fuel in boilers and process heaters throughout the refinery.

Relief valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Research and development facility means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale, except in a de minimis manner.

Shutdown means the cessation of a petroleum refining process unit or a unit operation (including, but not limited to, a distillation unit or reactor) within a petroleum refining process unit for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair.

Startup means the setting into operation of a petroleum refining process unit for purposes of production. Startup does not include operation solely for purposes of testing equipment. Startup does not include changes in product for flexible operation units.

Storage vessel means a tank or other vessel that is used to store organic liquids. Storage vessel does not include:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Vessels with capacities smaller than 40 cubic meters;

(4) Bottoms receiver tanks; or

(5) Wastewater storage tanks. Wastewater storage tanks are covered under the wastewater provisions.

Temperature monitoring device means a unit of equipment used to monitor temperature and having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5 °C, whichever is greater.

Total annual benzene means the total amount of benzene in waste streams at a facility on an annual basis as determined in §61.342 of 40 CFR part 61, subpart FF.

Total organic compounds or *TOC,* as used in this subpart, means those compounds excluding methane and ethane measured according to the procedures of Method 18 of 40 CFR part 60, appendix A. Method 25A may be used alone or in combination with Method 18 to measure TOC as provided in §63.645 of this subpart.

Wastewater means water or wastewater that, during production or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product and is discharged into any individual drain system. Examples are feed tank drawdown; water formed during a chemical reaction or used as a reactant; water used to wash impurities from organic products or reactants; water used to cool or quench organic vapor streams through direct contact; and condensed steam from jet ejector systems pulling vacuum on vessels containing organics.

§63.642 General standards.

(a) Each owner or operator of a source subject to this subpart is required to apply for a part 70 or part 71 operating permit from the appropriate permitting authority. If the EPA has approved a State operating permit program under part 70, the permit shall be obtained from the State authority. If the State operating permit program has not been approved, the source shall apply to the EPA Regional Office pursuant to part 71.

(c) Table 6 of this subpart specifies the provisions of subpart A of this part that apply and those that do not apply to owners and operators of sources subject to this subpart.

(d) Initial performance tests and initial compliance determinations shall be required only as specified in this subpart.

(1) Performance tests and compliance determinations shall be conducted according to the schedule and procedures specified in this subpart.

(2) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 days before the performance test is scheduled.

(3) Performance tests shall be conducted according to the provisions of §63.7(e) except that performance tests shall be conducted at maximum representative operating capacity for the process. During the performance test, an owner or operator shall operate the control device at either maximum or minimum representative operating conditions for monitored control device parameters, whichever results in lower emission reduction.

(4) Data shall be reduced in accordance with the EPA-approved methods specified in the applicable section or, if other test methods are used, the data and methods shall be validated according to the protocol in Method 301 of appendix A of this part.

(e) Each owner or operator of a source subject to this subpart shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in this subpart. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(f) All reports required under this subpart shall be sent to the Administrator at the addresses listed in §63.13 of subpart A of this part. If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(g) The owner or operator of an existing source subject to the requirements of this subpart shall control emissions of organic HAP's to the level represented by the following equation:

$E_A = 0.02\Sigma\ EPV_1 + \Sigma\ EPV_2 + 0.05\Sigma\ ES_1 + \Sigma\ ES_2 + \Sigma\ EGLR_{1C} + \Sigma\ EGLR_2 + (R)\ \Sigma\ EMV_1 + \Sigma\ EMV_2 + \Sigma\ EWW_{1C} + \Sigma\ EWW_2$

where:

E_A = Emission rate, megagrams per year, allowed for the source.

$0.02\Sigma\ EPV_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 miscellaneous process vents, as defined in §63.641.

$\Sigma\ EPV_2$ = Sum of the emissions, megagrams per year, from all Group 2 process vents, as defined in §63.641.

$0.05\Sigma\ ES_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 storage vessels, as defined in §63.641.

$\Sigma\ ES_2$ = Sum of the emissions, megagrams per year, from all Group 2 storage vessels, as defined in §63.641.

$\Sigma\ EGLR_{1C}$ = Sum of the residual emissions, megagrams per year, from all Group 1 gasoline loading racks, as defined in §63.641.

$\Sigma\ EGLR_2$ = Sum of the emissions, megagrams per year, from all Group 2 gasoline loading racks, as defined in §63.641.

$(R)\Sigma\ EMV_1$ = Sum of the residual emissions megagrams per year, from all Group 1 marine tank vessels, as defined in §63.641.

R = 0.03 for existing sources, 0.02 for new sources.

$\Sigma\ EMV_2$ = Sum of the emissions, megagrams per year from all Group 2 marine tank vessels, as defined in §63.641.

$\Sigma\ EWW_{1C}$ = Sum of the residual emissions from all Group 1 wastewater streams, as defined in §63.641. This term is calculated for each Group 1 stream according to the equation for EWW_{ic} in §63.652(h)(6).

Σ EWW_2 = Sum of emissions from all Group 2 wastewater streams, as defined in §63.641.

The emissions level represented by this equation is dependent on the collection of emission points in the source. The level is not fixed and can change as the emissions from each emission point change or as the number of emission points in the source changes.

(i) The owner or operator of an existing source shall demonstrate compliance with the emission standard in paragraph (g) of this section by following the procedures specified in paragraph (k) of this section for all emission points, or by following the emissions averaging compliance approach specified in paragraph (l) of this section for specified emission points and the procedures specified in paragraph (k) of this section for all other emission points within the source.

(k) The owner or operator of an existing source may comply, and the owner or operator of a new source shall comply, with the miscellaneous process vent provisions in §§63.643 through 63.645, the storage vessel provisions in §63.646, the wastewater provisions in §63.647, the gasoline loading rack provisions in §63.650, and the marine tank vessel loading operation provisions in §63.651 of this subpart.

(1) The owner or operator using this compliance approach shall also comply with the requirements of §63.654 as applicable.

(2) The owner or operator using this compliance approach is not required to calculate the annual emission rate specified in paragraph (g) of this section.

(m) A State may restrict the owner or operator of an existing source to using only the procedures in paragraph (k) of this section to comply with the emission standard in paragraph (g) of this section. Such a restriction would preclude the source from using an emissions averaging compliance approach.

§63.643 Miscellaneous process vent provisions.

(a) The owner or operator of a Group 1 miscellaneous process vent as defined in §63.641 shall comply with the requirements of either paragraphs (a)(1) or (a)(2) of this section.

(1) Reduce emissions of organic HAP's using a flare that meets the requirements of §63.11(b) of subpart A of this part.

§63.644 Monitoring provisions for miscellaneous process vents.

(a) Except as provided in paragraph (b) of this section, each owner or operator of a Group 1 miscellaneous process vent that uses a combustion device to comply with the requirements in §63.643(a) shall install the monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, depending on the type of combustion device used. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(2) Where a flare is used, a device (including but not limited to a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a pilot flame is required.

(c) The owner or operator of a Group 1 miscellaneous process vent using a vent system that contains bypass lines that could divert a vent stream away from the control device used to comply with paragraph (a) of this section shall comply with either paragraph (c)(1) or (c)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, pressure relief valves needed for safety reasons, and equipment subject to §63.648 are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. Records shall be generated as specified in §63.654(h) and (i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(d) The owner or operator shall establish a range that ensures compliance with the emissions standard for each parameter monitored under paragraphs (a) and (b) of this section. In order to establish the range, the information required in §63.654(f)(3) shall be submitted in the Notification of Compliance Status report.

(e) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum and/or maximum operating parameter value or procedure required to be monitored under paragraphs (a) and (b) of this section. Operation of the control device in a manner that constitutes a period of excess emissions, as defined in §63.654(g)(6), or failure to perform procedures required by this section shall constitute a violation of the applicable emission standard of this subpart.

§63.645 Test methods and procedures for miscellaneous process vents.

(a) To demonstrate compliance with §63.643, an owner or operator shall follow §63.116 except for §63.116 (a)(1), (d) and (e) of subpart G of this part except as provided in paragraphs (b) through (d) and paragraph (i) of this section.

(b) All references to §63.113(a)(1) or (a)(2) in §63.116 of subpart G of this part shall be replaced with §63.643(a)(1) or (a)(2), respectively.

(c) In §63.116(c)(4)(ii)(C) of subpart G of this part, organic HAP's in the list of HAP's in table 1 of this subpart shall be considered instead of the organic HAP's in table 2 of subpart F of this part.

(d) All references to §63.116(b)(1) or (b)(2) shall be replaced with paragraphs (d)(1) and (d)(2) of this section, respectively.

(1) Any boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(2) Any boiler or process heater in which all vent streams are introduced into the flame zone.

(e) For purposes of determining the TOC emission rate, as specified under paragraph (f) of this section, the sampling site shall be after the last product recovery device (as defined in §63.641 of this subpart) (if any recovery devices are present) but prior to the inlet of any control device (as defined in §63.641 of this subpart) that is present, prior to any dilution of the process vent stream, and prior to release to the atmosphere.

(1) Methods 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter in diameter.

(f) Except as provided in paragraph (g) of this section, an owner or operator seeking to demonstrate that a process vent TOC mass flow rate is less than 33 kilograms per day for an existing source or less than 6.8 kilograms per day for a new source in accordance with the Group 2 process vent definition of this subpart shall determine the TOC mass flow rate by the following procedures:

(1) The sampling site shall be selected as specified in paragraph (e) of this section.

(2) The gas volumetric flow rate shall be determined using Methods 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(3) Method 18 or Method 25A of 40 CFR part 60, appendix A shall be used to measure concentration; alternatively, any other method or data that has been validated according to the protocol in Method 301 of appendix A of this part may be used. If Method 25A is used, and the TOC mass flow rate calculated from the Method 25A measurement is greater than or equal to 33 kilograms per day for an existing source or 6.8 kilograms per day for a new source, Method 18 may be used to determine any non-VOC hydrocarbons that may be deducted to calculate the TOC (minus non-VOC hydrocarbons) concentration and mass flow rate. The following procedures shall be used to calculate parts per million by volume concentration:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

(ii) The TOC concentration (C_{TOC}) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation if Method 18 is used:

$$C_{TOC} = \frac{\sum_{i=1}^{x}\left(\sum_{j=1}^{n} C_{ji}\right)}{x}$$

where:

C_{TOC}=Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

C_{ji}=Concentration of sample component j of the sample i, dry basis, parts per million by volume.

n=Number of components in the sample.

x=Number of samples in the sample run.

(4) The emission rate of TOC (minus methane and ethane) (E_{TOC}) shall be calculated using the following equation if Method 18 is used:

$$E = K_2\left[\sum_{j=1}^{n} C_j M_j\right] Q_s$$

where:

E=Emission rate of TOC (minus methane and ethane) in the sample, kilograms per day.

K_2 = Constant, 5.986×10^{-5} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram per gram) (minute per day), where the standard temperature (standard cubic meter) is at 20 °C.

C_j=Concentration on a dry basis of organic compound j in parts per million as measured by Method 18 of 40 CFR part 60, appendix A, as indicated in paragraph (f)(3) of this section. C_j includes all organic compounds measured minus methane and ethane.

M_j=Molecular weight of organic compound j, gram per gram-mole.

Q_s=Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

(5) If Method 25A is used, the emission rate of TOC (E_{TOC}) shall be calculated using the following equation: –

$E_{TOC}=K_2C_{TOC}MQ_s$

where:

E_{TOC}=Emission rate of TOC (minus methane and ethane) in the sample, kilograms per day.

K_2=Constant, 5.986×10^{-5} (parts per million) $^{-1}$ (gram-mole per standard cubic meter) (kilogram per gram)(minute per day), where the standard temperature (standard cubic meter) is at 20 °C.

C_{TOC}=Concentration of TOC on a dry basis in parts per million volume as measured by Method 25A of 40 CFR part 60, appendix A, as indicated in paragraph (f)(3) of this section.

M=Molecular weight of organic compound used to express units of C_{TOC}, gram per gram-mole.

Q_s=Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

(g) Engineering assessment may be used to determine the TOC emission rate for the representative operating condition expected to yield the highest daily emission rate.

(1) Engineering assessment includes, but is not limited to, the following:

(i) Previous test results provided the tests are representative of current operating practices at the process unit.

(ii) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(iii) TOC emission rate specified or implied within a permit limit applicable to the process vent.

(iv) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(A) Use of material balances based on process stoichiometry to estimate maximum TOC concentrations;

(B) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(C) Estimation of TOC concentrations based on saturation conditions.

(v) All data, assumptions, and procedures used in the engineering assessment shall be documented.

(h) The owner or operator of a Group 2 process vent shall recalculate the TOC emission rate for each process vent, as necessary, whenever process changes are made to determine whether the vent is in Group 1 or Group 2. Examples of process changes include, but are not limited to, changes in production capacity, production rate, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph, process changes do not include: process upsets; unintentional, temporary process changes; and changes that are within the range on which the original calculation was based.

(1) The TOC emission rate shall be recalculated based on measurements of vent stream flow rate and TOC as specified in paragraphs (e) and (f) of this section, as applicable, or on best engineering assessment of the effects of the change. Engineering assessments shall meet the specifications in paragraph (g) of this section.

(2) Where the recalculated TOC emission rate is greater than 33 kilograms per day for an existing source or greater than 6.8 kilograms per day for a new source, the owner or operator shall submit a report as specified in §63.654 (f), (g), or (h) and shall comply with the appropriate provisions in §63.643 by the dates specified in §63.640.

(i) A compliance determination for visible emissions shall be conducted within 150 days of the compliance date using Method 22 of 40 CFR part 60, appendix A, to determine visible emissions.

§63.646 Storage vessel provisions.

(a) Each owner or operator of a Group 1 storage vessel subject to this subpart shall comply with the requirements of §§63.119 through 63.121 except as provided in paragraphs (b) through (l) of this section.

(b) As used in this section, all terms not defined in §63.641 shall have the meaning given them in 40 CFR part 63, subparts A or G. The Group 1 storage vessel definition presented in §63.641 shall apply in lieu of the Group 1 storage vessel definitions presented in tables 5 and 6 of §63.119 of subpart G of this part.

(1) An owner or operator may use good engineering judgment or test results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented.

(2) When an owner or operator and the Administrator do not agree on whether the annual average weight percent organic HAP in the stored liquid is above or below 4 percent for a storage vessel at an existing source or above or below 2 percent for a storage vessel at a new source, Method 18 of 40 CFR part 60, appendix A shall be used.

(c) The following paragraphs do not apply to storage vessels at existing sources subject to this subpart: §63.119 (b)(5), (b)(6), (c)(2), and (d)(2).

(d) References shall apply as specified in paragraphs (d)(1) through (d)(10) of this section.

(1) All references to §63.100(k) of subpart F of this part (or the schedule provisions and the compliance date) shall be replaced with §63.640(h),

(2) All references to April 22, 1994 shall be replaced with August 18, 1995.

(3) All references to December 31, 1992 shall be replaced with July 15, 1994.

(4) All references to the compliance dates specified in §63.100 of subpart F shall be replaced with §63.640 (h) through (m).

(5) All references to §63.150 in §63.119 of subpart G of this part shall be replaced with §63.652.

(6) All references to §63.113(a)(2) of subpart G shall be replaced with §63.643(a)(2) of this subpart.

(7) All references to §63.126(b)(1) of subpart G shall be replaced with §63.422(b) of subpart R of this part.

(8) All references to §63.128(a) of subpart G shall be replaced with §63.425, paragraphs (a) through (c) and (e) through (h) of subpart R of this part.

(9) All references to §63.139(d)(1) in §63.120(d)(1)(ii) of subpart G are not applicable. For sources subject to this subpart, such references shall mean that 40 CFR 61.355 is applicable.

(10) All references to §63.139(c) in §63.120(d)(1)(ii) of subpart G are not applicable. For sources subject to this subpart, such references shall mean that §63.647 of this subpart is applicable.

(e) When complying with the inspection requirements of §63.120 of subpart G of this part, owners and operators of storage vessels at existing sources subject to this subpart are not required to comply with the provisions for gaskets, slotted membranes, and sleeve seals.

(f) The following paragraphs (f)(1), (f)(2), and (f)(3) of this section apply to Group 1 storage vessels at existing sources:

(1) If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access.

(2) Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(3) Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(g) Failure to perform inspections and monitoring required by this section shall constitute a violation of the applicable standard of this subpart.

(h) References in §§63.119 through 63.121 to §63.122(g)(1), §63.151, and references to initial notification requirements do not apply.

(i) References to the Implementation Plan in §63.120, paragraphs (d)(2) and (d)(3)(i) shall be replaced with the Notification of Compliance Status report.

(j) References to the Notification of Compliance Status report in §63.152(b) shall be replaced with §63.654(f).

(k) References to the Periodic Reports in §63.152(c) shall be replaced with §63.654(g).

(l) The State or local permitting authority can waive the notification requirements of §§63.120(a)(5), 63.120(a)(6), 63.120(b)(10)(ii), and 63.120(b)(10)(iii) for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notifications in §§63.120(a)(6) or 63.120(b)(10)(iii) for all storage vessels at a refinery or for individual storage vessels on a case-by-case basis.

§63.647 Wastewater provisions.

(a) Except as provided in paragraph (b) of this section, each owner or operator of a Group 1 wastewater stream shall comply with the requirements of §§61.340 through 61.355 of 40 CFR part 61, subpart FF for each process wastewater stream that meets the definition in §63.641.

(b) As used in this section, all terms not defined in §63.641 shall have the meaning given them in the Clean Air Act or in 40 CFR part 61, subpart FF, §61.341.

(c) Each owner or operator required under subpart FF of 40 CFR part 61 to perform periodic measurement of benzene concentration in wastewater, or to monitor process or control device operating parameters shall operate in a manner consistent with the minimum or maximum (as appropriate) permitted concentration or operating parameter values. Operation of the process, treatment unit, or control device resulting in a measured concentration or operating parameter value outside the permitted limits shall constitute a violation of the emission standards. Failure to perform required leak monitoring for closed vent systems and control devices or failure to repair leaks within the time period specified in subpart FF of 40 CFR part 61 shall constitute a violation of the standard.

§63.648 Equipment leak standards.

(a) Each owner or operator of an existing source subject to the provisions of this subpart shall comply with the provisions of 40 CFR part 60 subpart VV and paragraph (b) of this section except as provided in paragraphs (a)(1), (a)(2), and (c) through (i) of this section. Each owner or operator of a new source subject to the provisions of this subpart shall comply with subpart H of this part except as provided in paragraphs (c) through (i) of this section.

(1) For purposes of compliance with this section, the provisions of 40 CFR part 60, subpart VV apply only to equipment in organic HAP service, as defined in §63.641 of this subpart.

(b) The use of monitoring data generated before August 18, 1995 to qualify for less frequent monitoring of valves and pumps as provided under 40 CFR part 60 subpart VV or subpart H of this part and paragraph (c) of this section (i.e., quarterly or semiannually) is governed by the requirements of paragraphs (b)(1) and (b)(2) of this section.

(1) Monitoring data must meet the test methods and procedures specified in §60.485(b) of 40 CFR part 60, subpart VV or §63.180(b)(1) through (b)(5) of subpart H of this part except for minor departures.

(2) Departures from the criteria specified in §60.485(b) of 40 CFR part 60 subpart VV or §63.180(b)(1) through (b)(5) of subpart H of this part or from the monitoring frequency specified in subpart VV or in paragraph (c) of this section (such as every 6 weeks instead of monthly or quarterly) are minor and do not significantly affect the quality of the data. An example of a minor departure is monitoring at a slightly different frequency (such as every 6 weeks instead of monthly or quarterly). Failure to use a calibrated instrument is not considered a minor departure.

(g) Compressors in hydrogen service are exempt from the requirements of paragraphs (a) and (c) of this section if an owner or operator demonstrates that a compressor is in hydrogen service.

(1) Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service.

(2) For a piece of equipment to be considered in hydrogen service, it must be determined that the percentage hydrogen content can be reasonably expected always to exceed 50 percent by volume.

(i) For purposes of determining the percentage hydrogen content in the process fluid that is contained in or contacts a compressor, the owner or operator shall use either:

(A) Procedures that conform to those specified in §60.593(b)(2) of 40 part 60, subpart GGG.

(B) Engineering judgment to demonstrate that the percentage content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume.

(*1*) When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, the procedures in paragraph (g)(2)(i)(A) of this section shall be used to resolve the disagreement.

(*2*) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only by following the procedures in paragraph (g)(2)(i)(A) of this section.

(h) Each owner or operator of a source subject to the provisions of this subpart must maintain all records for a minimum of 5 years.

(i) Reciprocating compressors are exempt from seal requirements if recasting the distance piece or compressor replacement is required.

§63.649 Alternative means of emission limitation: Connectors in gas/vapor service and light liquid service.

(e) Delay of repair of connectors for which leaks have been detected is allowed if repair is not technically feasible by normal repair techniques without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

(1) Delay of repair is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(2) Delay of repair for connectors is also allowed if:

(i) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are accomplished, the purged material would be collected and destroyed or recovered in a control device.

§63.650 Gasoline loading rack provisions.

(a) Except as provided in paragraphs (b) through (c) of this section, each owner or operator of a gasoline loading rack classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a petroleum refinery shall comply with subpart R, §§63.421, 63.422 (a) through (c), 63.425 (a) through (c), 63.425 (e) through (h), 63.427 (a) and (b), and 63.428 (b), (c), (g)(1), and (h)(1) through (h)(3).

(b) As used in this section, all terms not defined in §63.641 shall have the meaning given them in subpart A or in 40 CFR part 63, subpart R. The §63.641 definition of “affected source” applies under this section.

(c) Gasoline loading racks regulated under this subpart are subject to the compliance dates specified in §63.640(h).

§63.651 Marine tank vessel loading operation provisions.

(a) Except as provided in paragraphs (b) through (d) of this section, each owner or operator of a marine tank vessel loading operation located at a petroleum refinery shall comply with the requirements of §§63.560 through 63.567.

(b) As used in this section, all terms not defined in §63.641 shall have the meaning given them in subpart A or in 40 CFR part 63, subpart Y. The §63.641 definition of “affected source” applies under this section.

(c) The Initial Notification Report under §63.567(b) is not required.

(d) The compliance time of 4 years after promulgation of 40 CFR part 63, subpart Y does not apply. The compliance time is specified in §63.640(h)(3).

§63.654 Reporting and recordkeeping requirements.

(a) Each owner or operator subject to the wastewater provisions in §63.647 shall comply with the recordkeeping and reporting provisions in §§61.356 and 61.357 of 40 CFR part 61, subpart FF unless they are complying with the wastewater provisions specified in paragraph (o)(2)(ii) of §63.640. There are no additional reporting and recordkeeping requirements for wastewater under this subpart unless a wastewater stream is included in an emissions average. Recordkeeping and reporting for emissions averages are specified in §63.653 and in paragraphs (f)(5) and (g)(8) of this section.

(b) Each owner or operator subject to the gasoline loading rack provisions in §63.650 shall comply with the recordkeeping and reporting provisions in §63.428 (b) and (c), (g)(1), and (h)(1) through (h)(3) of subpart R of this part. These requirements are summarized in table 4 of this subpart. There are no additional reporting and recordkeeping requirements for gasoline loading racks under this subpart unless a loading rack is included in an emissions average. Recordkeeping and reporting for emissions averages are specified in §63.653 and in paragraphs (f)(5) and (g)(8) of this section.

(c) Each owner or operator subject to the marine tank vessel loading operation standards in §63.651 shall comply with the recordkeeping and reporting provisions in §§63.566 and 63.567(a) and §63.567 (c) through (i) of subpart Y of this part. These requirements are summarized in table 5 of this subpart. There are no additional reporting and recordkeeping requirements for marine tank vessel loading operations under this subpart unless marine tank vessel loading operations are included in an emissions average. Recordkeeping and reporting for emissions averages are specified in §63.653 and in paragraphs (f)(5) and (g)(8) of this section.

(d) Each owner or operator subject to the equipment leaks standards in §63.648 shall comply with the recordkeeping and reporting provisions in paragraphs (d)(1) through (d)(6) of this section.

(1) Sections 60.486 and 60.487 of subpart VV of part 60 except as specified in paragraph (d)(1)(i) of this section; or §§63.181 and 63.182 of subpart H of this part except for §§63.182(b), (c)(2), and (c)(4).

(i) The signature of the owner or operator (or designate) whose decision it was that a repair could not be effected without a process shutdown is not required to be recorded. Instead, the name of the person whose decision it was that a repair could not be effected without a process shutdown shall be recorded and retained for 2 years.

(2) The Notification of Compliance Status report required by §63.182(c) of subpart H and the initial semiannual report required by §60.487(b) of 40 CFR part 60, subpart VV shall be submitted within 150 days of the compliance date specified in §63.640(h); the requirements of subpart H of this part are summarized in table 3 of this subpart.

(3) An owner or operator who determines that a compressor qualifies for the hydrogen service exemption in §63.648 shall also keep a record of the demonstration required by §63.648.

(4) An owner or operator must keep a list of identification numbers for valves that are designated as leakless per §63.648(c)(10).

(5) An owner or operator must identify, either by list or location (area or refining process unit), equipment in organic HAP service less than 300 hours per year within refining process units subject to this subpart.

(6) An owner or operator must keep a list of reciprocating pumps and compressors determined to be exempt from seal requirements as per §§63.648 (f) and (i).

(e) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (e)(1) through (e)(3) of this section except as provided in paragraph (h)(5) of this section, and shall keep records as described in paragraph (i) of this section.

(1) A Notification of Compliance Status report as described in paragraph (f) of this section;

(2) Periodic Reports as described in paragraph (g) of this section; and

(3) Other reports as described in paragraph (h) of this section.

(f) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status report within 150 days after the compliance dates specified in §63.640(h) with the exception of Notification of Compliance Status reports submitted to comply with §63.640(l)(3) and for storage vessels subject to the compliance schedule specified in §63.640(h)(4). Notification of Compliance Status reports required by §63.640(l)(3) and for storage vessels subject to the compliance dates specified in §63.640(h)(4) shall be submitted according to paragraph (f)(6) of this section. This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in §63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in §63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information. Each owner or operator of a gasoline loading rack classified under Standard Industrial Classification Code 2911 located within a contiguous area and under common control with a petroleum refinery subject to the standards of this subpart shall submit the Notification of Compliance Status report required by subpart R of this part within 150 days after the compliance dates specified in §63.640(h) of this subpart.

(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.

(i) For storage vessels, this report shall include the information specified in paragraphs (f)(1)(i)(A) through (f)(1)(i)(D) of this section.

(A) Identification of each storage vessel subject to this subpart, and for each Group 1 storage vessel subject to this subpart, the information specified in paragraphs (f)(1)(i)(A)(*1*) through (f)(1)(i)(A)(*3*) of this section. This information is to be revised each time a Notification of Compliance Status report is submitted for a storage vessel subject to the compliance schedule specified in §63.640(h)(4) or to comply with §63.640(l)(3).

(*1*) For each Group 1 storage vessel complying with §63.646 that is not included in an emissions average, the method of compliance (i.e., internal floating roof, external floating roof, or closed vent system and control device).

(*2*) For storage vessels subject to the compliance schedule specified in §63.640(h)(4) that are not complying with §63.646, the anticipated compliance date.

(*3*) For storage vessels subject to the compliance schedule specified in §63.640(h)(4) that are complying with §63.646 and the Group 1 storage vessels described in §63.640(l), the actual compliance date.

(B) If a closed vent system and a control device other than a flare is used to comply with §63.646 the owner or operator shall submit:

(*1*) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed; and either

(*2*) The design evaluation documentation specified in §63.120(d)(1)(i) of subpart G, if the owner or operator elects to prepare a design evaluation; or

(*3*) If the owner or operator elects to submit the results of a performance test, identification of the storage vessel and control device for which the performance test will be submitted, and identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.

(C) If a closed vent system and control device other than a flare is used, the owner or operator shall submit:

(*1*) The operating range for each monitoring parameter. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

(*2*) If a performance test is conducted instead of a design evaluation, results of the performance test demonstrating that the control device achieves greater than or equal to the required control efficiency. A performance test conducted prior to the compliance date of this subpart can be used to comply with this requirement, provided that the test was conducted using EPA methods and that the test conditions are representative of current operating practices.

(D) If a closed vent system and a flare is used, the owner or operator shall submit:

(*1*) Flare design (e.g., steam-assisted, air-assisted, or nonassisted);

(*2*) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.120(e) of subpart G of this part; and

(*3*) All periods during the compliance determination when the pilot flame is absent.

(ii) For miscellaneous process vents, identification of each miscellaneous process vent subject to this subpart, whether the process vent is Group 1 or Group 2, and the method of compliance for each Group 1 miscellaneous process vent that is not included in an emissions average (e.g., use of a flare or other control device meeting the requirements of §63.643(a)).

(iii) For miscellaneous process vents controlled by control devices required to be tested under §63.645 of this subpart and §63.116(c) of subpart G of this part, performance test results including the information in paragraphs (f)(1)(iii)(A) and (B) of this section. Results of a performance test conducted prior to the compliance date of this subpart can be used provided that the test was conducted using the methods specified in §63.645 and that the test conditions are representative of current operating conditions.

(A) The percentage of reduction of organic HAP's or TOC, or the outlet concentration of organic HAP's or TOC (parts per million by volume on a dry basis corrected to 3 percent oxygen), determined as specified in §63.116(c) of subpart G of this part; and

(B) The value of the monitored parameters specified in table 10 of this subpart, or a site-specific parameter approved by the permitting authority, averaged over the full period of the performance test,

(iv) For miscellaneous process vents controlled by flares, performance test results including the information in paragraphs (f)(1)(iv)(A) and (B) of this section;

(A) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.645 of this subpart and §63.116(a) of subpart G of this part, and

(B) A statement of whether a flame was present at the pilot light over the full period of the compliance determination.

(v) For equipment leaks complying with §63.648(c) (i.e., complying with the requirements of subpart H of this part), the Notification of Compliance Report Status report information required by §63.182(c) of subpart H and whether the percentage of leaking valves will be reported on a process unit basis or a sourcewide basis.

(2) If initial performance tests are required by §§63.643 through 63.653 of this subpart, the Notification of Compliance Status report shall include one complete test report for each test method used for a particular source.

(i) For additional tests performed using the same method, the results specified in paragraph (f)(1) of this section shall be submitted, but a complete test report is not required.

(ii) A complete test report shall include a sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(iii) Performance tests are required only if specified by §§63.643 through 63.653 of this subpart. Initial performance tests are required for some kinds of emission points and controls. Periodic testing of the same emission point is not required.

(3) For each monitored parameter for which a range is required to be established under §63.120(d) of subpart G of this part for storage vessels or §63.644 for miscellaneous process vents, the Notification of Compliance Status report shall include the information in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.

(i) The specific range of the monitored parameter(s) for each emission point;

(ii) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range ensures compliance with the emission standard.

(A) If a performance test is required by this subpart for a control device, the range shall be based on the parameter values measured during the performance test supplemented by engineering assessments and manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values.

(B) If a performance test is not required by this subpart for a control device, the range may be based solely on engineering assessments and manufacturers' recommendations.

(iii) A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

(4) Results of any continuous monitoring system performance evaluations shall be included in the Notification of Compliance Status report.

(5) For emission points included in an emissions average, the Notification of Compliance Status report shall include the values of the parameters needed for input to the emission credit and debit equations in §63.652(g) and (h), calculated or measured according to the procedures in §63.652(g) and (h), and the resulting credits and debits for the first quarter of the year. The first quarter begins on the compliance date specified in §63.640.

(6) Notification of Compliance Status reports required by §63.640(l)(3) and for storage vessels subject to the compliance dates specified in §63.640(h)(4) shall be submitted no later than 60 days after the end of the 6-month period during which the change or addition was made that resulted in the Group 1 emission point or the existing Group 1 storage vessel was brought into compliance, and may be combined with the periodic report. Six-month periods shall be the same 6-month periods specified in paragraph (g) of this section. The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1) through (f)(5) of this section. This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, as part of the periodic report, or in any combination of these four. If the required information has been submitted before the date 60 days after the end of the 6-month period in which the addition of the Group 1 emission point took place, a separate Notification of Compliance Status report is not required within 60 days after the end of the 6-month period. If an owner or operator submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.

(g) The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occur. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of this section.

(1) For storage vessels, Periodic Reports shall include the information specified for Periodic Reports in paragraph (g)(2) through (g)(5) of this section except that information related to gaskets, slotted membranes, and sleeve seals is not required for storage vessels that are part of an existing source.

(2) An owner or operator who elects to comply with §63.646 by using a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit the results of

each inspection conducted in accordance with §63.120(a) of subpart G of this part in which a failure is detected in the control equipment.

(i) For vessels for which annual inspections are required under §63.120(a)(2)(i) or (a)(3)(ii) of subpart G of this part, the specifications and requirements listed in paragraphs (g)(2)(i)(A) through (g)(2)(i)(C) of this section apply.

(A) A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.

(B) Except as provided in paragraph (g)(2)(i)(C) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.

(C) If an extension is utilized in accordance with §63.120(a)(4) of subpart G of this part, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in §63.120(a)(4) of subpart G of this part; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

(ii) For vessels for which inspections are required under §63.120(a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of subpart G of this part (i.e., internal inspections), the specifications and requirements listed in paragraphs (g)(2)(ii)(A) and (g)(2)(ii)(B) of this section apply.

(A) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than a 10 percent open area.

(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(3) An owner or operator who elects to comply with §63.646 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.

(i) The owner or operator shall submit, as part of the Periodic Report, documentation of the results of each seal gap measurement made in accordance with §63.120(b) of subpart G of this part in which the seal and seal gap requirements of §63.120(b)(3), (b)(4), (b)(5), or (b)(6) of subpart G of this part are not met. This documentation shall include the information specified in paragraphs (g)(3)(i)(A) through (g)(3)(i)(D) of this section.

(A) The date of the seal gap measurement.

(B) The raw data obtained in the seal gap measurement and the calculations described in §63.120(b)(3) and (b)(4) of subpart G of this part.

(C) A description of any seal condition specified in §63.120(b)(5) or (b)(6) of subpart G of this part that is not met.

(D) A description of the nature of and date the repair was made, or the date the storage vessel was emptied.

(ii) If an extension is utilized in accordance with §63.120(b)(7)(ii) or (b)(8) of subpart G of this part, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in §63.120(b)(7)(ii) or (b)(8) of subpart G of this part, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.

(iii) The owner or operator shall submit, as part of the Periodic Report, documentation of any failures that are identified during visual inspections required by §63.120(b)(10) of subpart G of this part. This documentation shall meet the specifications and requirements in paragraphs (g)(3)(iii)(A) and (g)(3)(iii)(B) of this section.

(A) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than 10 percent open area.

(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(4) An owner or operator who elects to comply with §63.646 by using an external floating roof converted to an internal floating roof shall comply with the periodic reporting requirements of paragraph (g)(2) of this section.

(5) An owner or operator who elects to comply with §63.646 by installing a closed vent system and control device shall submit, as part of the next Periodic Report, the information specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.

(i) The Periodic Report shall include the information specified in paragraphs (g)(5)(i)(A) and (g)(5)(i)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of §63.119(e)(1) or (e)(2) of subpart G of this part, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of §63.119 (e)(1) or (e)(2) of subpart G of this part, as applicable, due to planned routine maintenance.

(ii) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: Identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.

(iii) If a flare is used, the Periodic Report shall describe each occurrence when the flare does not meet the general control device requirements specified in §63.11(b) of subpart A of this part and shall include: Identification of the flare that does not meet the general requirements specified in §63.11(b) of subpart A of this part, and reasons the flare did not meet the general requirements specified in §63.11(b) of subpart A of this part.

(6) For miscellaneous process vents for which continuous parameter monitors are required by this subpart, periods of excess emissions shall be identified in the Periodic Reports and shall be used to determine compliance with the emission standards.

(i) Period of excess emission means any of the following conditions:

(A) An operating day when the daily average value of a monitored parameter, except presence of a flare pilot flame, is outside the range specified in the Notification of Compliance Status report. Monitoring data recorded during periods of monitoring system breakdown, repairs, calibration checks and zero (low-level) and high-level adjustments shall not be used in computing daily average values of monitored parameters.

(B) An operating day when all pilot flames of a flare are absent.

(C) An operating day when monitoring data required to be recorded in paragraphs (i)(3) (i) and (ii) of this section are available for less than 75 percent of the operating hours.

(D) For data compression systems approved under paragraph (h)(5)(iii) of this section, an operating day when the monitor operated for less than 75 percent of the operating hours or a day when less than 18 monitoring values were recorded.

(ii) For miscellaneous process vents, excess emissions shall be reported for the operating parameters specified in table 10 of this subpart unless other site-specific parameter(s) have been approved by the operating permit authority.

(iii) Periods of startup and shutdown that meet the definition of §63.641, and malfunction that meet the definition in §63.2 and periods of performance testing and monitoring system calibration shall not be considered periods of excess emissions. Malfunctions may include process unit, control device, or monitoring system malfunctions.

(7) If a performance test for determination of compliance for a new emission point subject to this subpart or for an emission point that has changed from Group 2 to Group 1 is conducted during the period covered by a Periodic Report, the results of the performance test shall be included in the Periodic Report.

(i) Results of the performance test shall include the percentage of emissions reduction or outlet pollutant concentration reduction (whichever is needed to determine compliance) and the values of the monitored operating parameters.

(ii) The complete test report shall be maintained onsite.

(8) The owner or operator of a source shall submit quarterly reports for all emission points included in an emissions average.

(i) The quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter. The first report shall be submitted with the Notification of Compliance Status report no later than 150 days after the compliance date specified in §63.640.

(ii) The quarterly reports shall include:

(A) The information specified in this paragraph and in paragraphs (g)(2) through (g)(7) of this section for all storage vessels and miscellaneous process vents included in an emissions average;

(B) The information required to be reported by §63.428 (h)(1), (h)(2), and (h)(3) for each gasoline loading rack included in an emissions average, unless this information has already been submitted in a separate report;

(C) The information required to be included in quarterly reports by §§63.567(f) and 63.567(i)(2) of subpart Y of this part for each marine tank vessel loading operation included in an emissions average, unless the information has already been submitted in a separate report;

(D) Any information pertaining to each wastewater stream included in an emissions average that the source is required to report under the Implementation Plan for the source;

(E) The credits and debits calculated each month during the quarter;

(F) A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under §§63.652(e)(4);

(G) The values of any inputs to the credit and debit equations in §63.652 (g) and (h) that change from month to month during the quarter or that have changed since the previous quarter; and

(H) Any other information the source is required to report under the Implementation Plan for the source.

(iii) Every fourth quarterly report shall include the following:

(A) A demonstration that annual credits are greater than or equal to annual debits as required by §63.652(e)(3); and

(B) A certification of compliance with all the emissions averaging provisions in §63.652 of this subpart.

(h) Other reports shall be submitted as specified in subpart A of this part and as follows:

(1) Reports of startup, shutdown, and malfunction required by §63.10(d)(5). Records and reports of startup, shutdown, and malfunction are not required if they pertain solely to Group 2 emission points, as defined in §63.641, that are not included in an emissions average. For purposes of this paragraph, startup and shutdown shall have the meaning defined in §63.641, and malfunction shall have the meaning defined in §63.2; and

(2) For storage vessels, notifications of inspections as specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this section;

(i) In order to afford the Administrator the opportunity to have an observer present, the owner or operator shall notify the Administrator of the refilling of each Group 1 storage vessel that has been emptied and degassed.

(A) Except as provided in paragraphs (h)(2)(i) (B) and (C) of this section, the owner or operator shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP's to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.

(B) Except as provided in paragraph (h)(2)(i)(C) of this section, if the internal inspection required by §§63.120(a)(2), 63.120(a)(3), or 63.120(b)(10) of subpart G of this part is not planned and the owner or operator could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP's, the owner or operator shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.

(C) The State or local permitting authority can waive the notification requirements of paragraphs (h)(2)(i)(A) and/or (h)(2)(i)(B) of this section for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notification required by paragraph (h)(2)(i)(A) of this section, or sooner than 7 days after submitting the notification required by paragraph (h)(2)(i)(B) of this section for all storage vessels, or for individual storage vessels on a case-by-case basis.

(ii) In order to afford the Administrator the opportunity to have an observer present, the owner or operator of a storage vessel equipped with an external floating roof shall notify the Administrator of any seal gap measurements. The notification shall be made in writing at least 30 calendar days in advance of any gap measurements required by §63.120 (b)(1) or (b)(2) of subpart G of this part. The State or local permitting

authority can waive this notification requirement for all or some storage vessels subject to the rule or can allow less than 30 calendar days' notice.

(3) For owners or operators of sources required to request approval for a nominal control efficiency for use in calculating credits for an emissions average, the information specified in §63.652(h).

(4) The owner or operator who requests approval to monitor a different parameter than those listed in §63.644 for miscellaneous process vents or who is required by §63.653(a)(8) to establish a site-specific monitoring parameter for a point in an emissions average shall submit the information specified in paragraphs (h)(4)(i) through (h)(4)(iii) of this section. For new or reconstructed sources, the information shall be submitted with the application for approval of construction or reconstruction required by §63.5(d) of subpart A and for existing sources, and the information shall be submitted no later than 18 months prior to the compliance date. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.

(i) A description of the parameter(s) to be monitored to determine whether excess emissions occur and an explanation of the criteria used to select the parameter(s).

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter can be used to determine excess emissions and the schedule for this demonstration. The owner or operator must certify that they will establish a range for the monitored parameter as part of the Notification of Compliance Status report required in paragraphs (e) and (f) of this section.

(iii) The frequency and content of monitoring, recording, and reporting if: monitoring and recording are not continuous; or if periods of excess emissions, as defined in paragraph (g)(6) of this section, will not be identified in Periodic Reports required under paragraphs (e) and (g) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.

(5) An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in paragraph (i) of this section.

(i) Requests shall be submitted with the Application for Approval of Construction or Reconstruction for new sources and no later than 18 months prior to the compliance date for existing sources. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal. Requests shall contain the information specified in paragraphs (h)(5)(iii) through (h)(5)(iv) of this section, as applicable.

(ii) The provisions in §63.8(f)(5)(i) of subpart A of this part shall govern the review and approval of requests.

(iii) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every hour) but records all values that meet set criteria for variation from previously recorded values.

(A) The requested system shall be designed to:

(*1*) Measure the operating parameter value at least once every hour.

(*2*) Record at least 24 values each day during periods of operation.

(*3*) Record the date and time when monitors are turned off or on.

(*4*) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(*5*) Compute daily average values of the monitored operating parameter based on recorded data.

(B) The request shall contain a description of the monitoring system and data compression recording system including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria of paragraph (h)(5)(iii)(A) of this section.

(iv) An owner or operator may request approval to use other alternative monitoring systems according to the procedures specified in §63.8(f) of subpart A of this part.

(6) The owner or operator shall submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted in the initial Notification of Compliance Status report. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by §63.5(d) of subpart A of this part. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.

(i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units.

(ii) The determination of applicability of this subpart to any storage vessel for which use varies from year to year.

(iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year.

(i) *Recordkeeping.* (1) Each owner or operator subject to the storage vessel provisions in §63.646 shall keep the records specified in §63.123 of subpart G of this part except as specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section.

(i) Records related to gaskets, slotted membranes, and sleeve seals are not required for storage vessels within existing sources.

(ii) All references to §63.122 in §63.123 of subpart G of this part shall be replaced with §63.654(e),

(iii) All references to §63.150 in §63.123 of subpart G of this part shall be replaced with §63.652.

(iv) If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent for existing sources or 2 percent for new sources, a record of any data, assumptions, and procedures used to make this determination shall be retained.

(2) Each owner or operator required to report the results of performance tests under paragraphs (f) and (g)(7) of this section shall retain a record of all reported results as well as a complete test report, as described in paragraph (f)(2)(ii) of this section for each emission point tested.

(3) Each owner or operator required to continuously monitor operating parameters under §63.644 for miscellaneous process vents or under §§63.652 and 63.653 for emission points in an emissions average shall keep the records specified in paragraphs (i)(3)(i) through (i)(3)(v) of this section unless an alternative recordkeeping system has been requested and approved under paragraph (h) of this section.

(i) The monitoring system shall measure data values at least once every hour.

(ii) The owner or operator shall record either:

(A) Each measured data value; or

(B) Block average values for 1 hour or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.

(iii) Daily average values of each continuously monitored parameter shall be calculated for each operating day and retained for 5 years except as specified in paragraph (i)(3)(iv) of this section.

(A) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per day if operation is not continuous.

(B) The operating day shall be the period defined in the Notification of Compliance Status report. It may be from midnight to midnight or another daily period.

(iv) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status report, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that day. For these days, the records required in paragraph (i)(3)(ii) of this section shall also be retained for 5 years.

(v) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

(4) All other information required to be reported under paragraphs (a) through (h) of this section shall be retained for 5 years.

§ 63.655 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.640, 63.642(g) through (l), 63.643, and 63.646 through 63.652. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. Where these standards reference another subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of the modified requirements will also occur according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

Table 1_Hazardous Air Pollutants	
Chemical name	CAS No. \a\
Benzene	71432
Biphenyl	92524
Butadiene (1,3)	10990
Carbon disulfide	75150
Carbonyl sulfide	463581
Cresol (mixed isomers \b\)	1319773
Cresol (m-)	108394
Cresol (o-)	95487
Cresol (p-)	106445
Cumene	98828
Dibromoethane (1,2) (ethylene dibromide)	106934
Dichloroethane (1,2)	107062
Diethanolamine	111422
Ethylbenzene	100414
Ethylene glycol	107211
Hexane	110543
Methanol	67561
Methyl ethyl ketone (2-butanone)	78933
Methyl isobutyl ketone (hexone)	108101
Methyl tert butyl ether	1634044
Naphthalene	91203
Phenol	108952
Toluene	108883
Trimethylpentane (2,2,4)	540841
Xylene (mixed isomers \b\)	1330207
xylene (m-)	108383
xylene (o-)	95476
xylene (p-)	106423
\a\ CAS number = Chemical Abstract Service registry number assigned to specific compounds, isomers, or mixtures of compounds. \b\ Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters, or derivatives.	

Table 4 Gasoline Distribution Emission Point Recordkeeping and Reporting Requirements \a		
Reference (section of subpart R of this part)	**Description**	**Comment**
63.428(b)	Records of test results for each gasoline cargo tank loaded at the facility.	
63.428(c)	Continuous monitoring data recordkeeping requirements.	
63.428(g)(1)	Semiannual report loading rack information.	Required to be submitted with the periodic report required under 40 CFR part 63 subpart CC.
63.428 (h)(1) through (h)(3)	Excess emissions report loading rack information.	Required to be submitted with the periodic report required under 40 CFR part 63 subpart CC.

Table 4 Gasoline Distribution Emission Point Recordkeeping and Reporting Requirements \a		
Reference (section of subpart R of this part)	**Description**	**Comment**
a This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.		

Table 5 Marine Vessel Loading and Unloading Operations Recordkeeping and Reporting Requirements \a		
Reference (section of subpart Y of this part)	**Description**	**Comment**
63.565(a)	Performance test/site test plan.	The information required under this paragraph is to be submitted with the notification of compliance status report required under 40 CFR part 63, subpart CC.
63.565(b)	Performance test data requirements	
63.567(a)	General Provisions (subpart A) applicability	
63.567(c)	Vent system valve bypass recordkeeping requirements	
63.567(d)	Continuous equipment monitoring recordkeeping requirements	
63.567(e)	Flare recordkeeping requirements	
63.567(f)	Quarterly report requirements	The information required under this paragraph is to be submitted with the periodic report required under 40 CFR part 63 subpart CC.
63.567(g)	Marine vessel vapor-tightness documentation	
63.567(h)	Documentation file maintenance	
63.567(i)	Emission estimation reporting and recordkeeping procedures	
a This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.		

Table 6_General Provisions Applicability to Subpart CC \a		
Reference	**Applies to subpart CC**	**Comment**
63.1(a)(1)	Yes	
63.1(a)(2)	Yes	
63.1(a)(3)	Yes	
63.1(a)(4)	No	Subpart CC (this table) specifies applicability of each paragraph in subpart A to subpart CC.
63.1(a)(5)-63.1(a)(9)	No	
63.1(a)(10)	No	Subpart CC and other cross-referenced subparts specify calendar or operating day.
63.1(a)(11)	Yes	
63.1(a)(12)	Yes	
63.1(a)(13)	Yes	
63.1(a)(14)	Yes	
63.1(b)(1)	No	Subpart CC specifies its own applicability.

Table 6_General Provisions Applicability to Subpart CC \a\		
Reference	**Applies to subpart CC**	**Comment**
63.1(b)(2)	Yes	
63.1(b)(3)	No	
63.1(c)(1)	No	Subpart CC explicitly specifies requirements that apply.
63.1(c)(2)	No	Area sources are not subject to subpart CC.
63.1(c)(3)	No	
63.1(c)(4)	Yes	
63.1(c)(5)	Yes	Except that sources are not required to submit notifications overridden by this table.
63.1(d)	No	
63.1(e)	No	
63.2	Yes	§ 63.641 of subpart CC specifies that if the same term is defined in subparts A and CC, it shall have the meaning given in subpart CC.
63.3	No	Units of measure are spelled out in subpart CC.
63.4(a)(1)-63.4(a)(3)	Yes	
63.4(a)(4)	No	Reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)(1)	Yes	Except replace term "source" and "stationary source" in § 63.5(a)(1) of subpart A with "affected source."
63.5(a)(2)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Reserved.
63.5(b)(3)	Yes	
63.5(b)(4)	Yes	Except the cross- reference to § 63.9(b) is changed to § 63.9(b) (4) and (5). Subpart CC overrides § 63.9 (b)(2) and (b)(3).
63.5(b)(5)	Yes	
63.5(b)(6)	Yes	
63.5(c)	No	Reserved.
63.5(d)(1)(i)	Yes	Except that the application shall be submitted as soon as practicable before startup but no later than 90 days (rather than 60 days) after the promulgation date of subpart CC if the construction or reconstruction had commenced and initial startup had not occurred before the promulgation of subpart CC.
63.5(d)(1)(ii)	Yes	Except that for affected sources subject to subpart CC, emission estimates specified in § 63.5(d)(1)(ii)(H) are not required.
63.5(d)(1)(iii)	No	Subpart CC requires submittal of the notification of compliance status report in § 63.654(e).
63.5(d)(2)	No	
63.5(d)(3)	Yes	Except § 63.5(d)(3)(ii) does not apply.
63.5(d)(4)	Yes	
63.5(e)	Yes	
63.5(f)(1)	Yes	
63.5(f)(2)	Yes	Except that the "60 days" in the cross- referenced § 63.5(d)(1) is changed to "90 days," and the cross-reference to (b)(2) does not apply.
63.6(a)	Yes	
63.6(b)(1)	No	Subpart CC specifies compliance dates for sources subject to subpart CC.
63.6(b)(2)	No	

Table 6_General Provisions Applicability to Subpart CC \a\		
Reference	**Applies to subpart CC**	**Comment**
63.6(b)(3)	Yes	
63.6(b)(4)	No	May apply when standards are proposed under section 112(f) of the Clean Air Act.
63.6(b)(5)	No	§ 63.654(d) of subpart CC includes notification requirements.
63.6(b)(6)	No	
63.6(b)(7)	No	
63.6(c)(1)	No	§ 63.640 of subpart CC specifies the compliance date.
63.6(c)(2)-63.6(c)(4)	No	
63.6(c)(5)	Yes	
63.6(d)	No	
63.6(e)	Yes	Does not apply to Group 2 emission points. \b\ The startup, shutdown, and malfunction plan specified in § 63.6(e)(3) is not required for wastewater operations that are not subject to subpart G of this part. Except that actions taken during a startup, shutdown, or malfunction that are not consistent with the startup, shutdown, and malfunction plan do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but must be included in the next periodic report.
63.6(f)(1)	Yes	
63.6(f)(2)(i)	Yes	
63.6(f)(2)(ii)	Yes	Subpart CC specifies the use of monitoring data in determining compliance with subpart CC.
63.6(f)(2)(iii) (A), (B), and (C)	Yes	
63.6(f)(2)(iii)(D)	No	
63.6(f)(2)(iv)	Yes	
63.6(f)(2)(v)	Yes	
63.6(f)(3)	Yes	
63.6(g)	Yes	
63.6(h) (1) and (2)	Yes	
63.6(h) (4) and (5)	No	Visible emission requirements and timing in subpart CC.
63.6(h)(6)	Yes	
63.6(h) (7) through (9)	No	Subpart CC does not require opacity standards.
63.6(i)	Yes	Except for § 63.6(i)(15), which is reserved.
63.6(j)	Yes	
63.7(a)(1)	No	Subpart CC specifies required testing and compliance demonstration procedures.
63.7(a)(2)	No	Test results must be submitted in the notification of compliance status report due 150 days after compliance date, as specified in § 63.654(d) of subpart CC.
63.7(a)(3)	Yes	
63.7(b)	No	
63.7(c)	No	
63.7(d)	Yes	
63.7(e)(1)	Yes	
63.7(e)(2)	Yes	
63.7(e)(3)	No	Subpart CC specifies test methods and procedures.

Table 6_General Provisions Applicability to Subpart CC \a\		
Reference	**Applies to subpart CC**	**Comment**
63.7(e)(4)	Yes	
63.7(f)	No	Subpart CC specifies applicable methods and provides alternatives.
63.7(g)	No	Performance test reporting specified in § 63.654(d).
63.7(h)(1)	Yes	
63.7(h)(2)	Yes	
63.7(h)(3)	Yes	Yes, except site- specific test plans shall not be required, and where § 63.7(g)(3) specifies submittal by the date the site- specific test plan is due, the date shall be 90 days prior to the notification of compliance status report in § 63.654(d).
63.7(h)(4)	No	
63.7(h)(5)	Yes	
63.8(a)	No	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart CC specifies locations to conduct monitoring.
63.8(b)(3)	Yes	
63.8(c)(1)(i)	Yes	
63.8(c)(1)(ii)	No	Addressed by periodic reports in § 63.654(e) of subpart CC.
63.8(c)(1)(iii)	Yes	
63.8(c)(2)	Yes	
63.8(c)(3)	Yes	Except that verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment would monitor accurately.
63.8(c)(4)	No	Subpart CC specifies monitoring frequency in § 63.641 and § 63.654(g)(3) of subpart CC.
63.8(c)(5)-63.8(c)(8)	No	
63.8(d)	No	
63.8(e)	No	
63.8(f)(1)	Yes	
63.8(f)(2)	Yes	
63.8(f)(3)	Yes	
63.8(f)(4)(i)	No	Timeframe for submitting request is specified in § 63.654(f)(4) of subpart CC.
63.8(f)(4)(ii)	Yes	
63.8(f)(4)(iii)	No	
63.8(f)(5)(i)	Yes	
63.8(f)(5)(ii)	No	
63.8(f)(5)(iii)	Yes	
63.8(f)(6)	No	Subpart CC does not require continuous emission monitors.
63.8(g)	No	Subpart CC specifies data reduction procedures in § 63.654(h)(3).
63.9(a)	Yes	Except that the owner or operator does not need to send a copy of each notification submitted to the Regional Office of the EPA as stated in § 63.9(a)(4)(ii).
63.9(b)(1)(i)	No	Specified in § 63.654(d)(2) of subpart CC.
63.9(b)(1)(ii)	No	
63.9(b)(2)	No	An initial notification report is not required under subpart CC.
63.9(b)(3)	No	
63.9(b)(4)	Yes	Except that the notification in § 63.9(b)(4)(i) shall be submitted at the time specified in § 63.654(d)(2) of subpart CC.

Table 6_General Provisions Applicability to Subpart CC \a\		
Reference	**Applies to subpart CC**	**Comment**
63.9(b)(5)	Yes	Except that the notification in § 63.9(b)(5) shall be submitted at the time specified in § 63.654(d)(2) of subpart CC.
63.9(c)	Yes	
63.9(d)	Yes	
63.9(e)	No	
63.9(f)	No	
63.9(g)	No	
63.9(h)	No	Subpart CC § 63.652(d) specifies notification of compliance status report requirements.
63.9(i)	Yes	
63.9(j)	No	
63.10(a)	Yes	
63.10(b)(1)	No	§ 63.644(d) of subpart CC specifies record retention requirements.
63.10(b)(2)(i)	Yes	
63.10(b)(2)(ii)	Yes	
63.10(b)(2)(iii)	No	
63.10(b)(2)(iv)	Yes	
63.10(b)(2)(v)	Yes	
63.10(b)(2)(vi)-(ix)	No	
63.10(b)(2)(x)	Yes	
63.10(b)(2)(xii)-(xiv)	No	
63.10(b)(3)	No	
63.10(c)	No	
63.10(d)(1)	No	
63.10(d)(2)	No	§ 63.654(d) of subpart CC specifies performance test reporting.
63.10(d)(3)	No	
63.10(d)(4)	Yes	
63.10(d)(5)(i)	Yes \b\	Except that reports required by § 63.10(d)(5)(i) may be submitted at the same time as periodic reports specified in § 63.654(e) of subpart CC.
63.10(d)(5)(ii)	Yes	Except that actions taken during a startup, shutdown, or malfunction that are not consistent with the startup, shutdown, and malfunction plan do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but must be included in the next periodic report.
63.10(e)	No	
63.10(f)	Yes	
63.11-63.15	Yes	
\a\ Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required. \b\ The plan, and any records or reports of startup, shutdown, and malfunction do not apply to Group 2 emission points.		

E.1.3 Deadlines Relating to National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries [40 CFR Part 63, Subpart CC]

The Permittee shall comply with the below requirements by the dates listed for storage tanks TK-3573, TK-SP-1 through TK-SP-4, TK-LG-1 through TK-LG-17, and TK-3570, which are considered part of an existing affected source.

Requirement	Rule Citations	Applicable To	Deadline
Initial Semiannual Compliance Report	40 CFR 63.654(g)	Pumps, Valves, and Connectors at the Tank Cleaning Facility	In the next semi-annual report submitted for the existing equipment at the refinery after startup of the new equipment
Notification of Compliance Status report for emission points that are added or changed	40 CFR 63.640(l)(3) 40 CFR 63.654(f)(1)(i)(A) 40 CFR 63.9(h)	New Group 2 Storage Tanks(1)	Submitted in the next Notification of Compliance Status for the existing affected source (after startup of the new Group 2 storage tanks) or Submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three

(1) Group 2 storage tanks include storage tanks TK-3573, TK-SP-1 through TK-SP-4, TK-LG-1 through TK-LG-17, and TK-3570.

SECTION E.2 40 CFR Part 60, Subpart J - Standards of Performance for Petroleum Refineries

E.2.1 General Provisions Relating to NSPS Subpart J [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the affected emission units at this source, except when otherwise specified in 40 CFR Part 60, Subpart J.

E.2.2 NSPS Subpart J Requirements [40 CFR Part 60, Subpart J] [326 IAC 12]

Pursuant to 40 CFR 60.100(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart J, which are incorporated by reference as 326 IAC 12, for the fuel gas combustion devices and Claus sulfur recovery plants, except when otherwise specified in 40 CFR Part 60, Subpart J.

Subpart J—Standards of Performance for Petroleum Refineries

§ 60.100 Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device under paragraph (a) of this section which commences construction or modification after June 11, 1973, or any Claus sulfur recovery plant under paragraph (a) of this section which commences construction or modification after October 4, 1976, is subject to the requirements of this subpart except as provided under paragraphs (c) and (d) of this section.

(c) Any fluid catalytic cracking unit catalyst regenerator under paragraph (b) of this section which commences construction or modification on or before January 17, 1984, is exempted from §60.104(b).

(d) Any fluid catalytic cracking unit in which a contact material reacts with petroleum derivatives to improve feedstock quality and in which the contact material is regenerated by burning off coke and/or other deposits and that commences construction or modification on or before January 17, 1984, is exempt from this subpart.

(e) For purposes of this subpart, under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following January 17, 1984. For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§ 60.104 Standards for sulfur oxides.

Each owner or operator that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test, required by §60.8, is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after initial startup, whichever comes first.

(a) No owner or operator subject to the provisions of this subpart shall:

(1) Burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph.

(2) Discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of:

(i) For an oxidation control system or a reduction control system followed by incineration, 250 ppm by volume (dry basis) of sulfur dioxide (SO_2) at zero percent excess air.

(ii) For a reduction control system not followed by incineration, 300 ppm by volume of reduced sulfur compounds and 10 ppm by volume of hydrogen sulfide (H_2S), each calculated as ppm SO_2 by volume (dry basis) at zero percent excess air.

§ 60.105 Monitoring of emissions and operations.

(a) Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this subpart as follows:

(4) In place of the SO_2 monitor in paragraph (a)(3) of this section, an instrument for continuously monitoring and recording the concentration (dry basis) of H_2S in fuel gases before being burned in any fuel gas combustion device.

(i) The span value for this instrument is 425 mg/dscm H_2S.

(ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas being burned.

(iii) The performance evaluations for this H_2S monitor under §60.13(c) shall use Performance Specification 7. Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations.

(5) For Claus sulfur recovery plants with oxidation control systems or reduction control systems followed by incineration subject to §60.104(a)(2)(i), an instrument for continuously monitoring and recording the concentration (dry basis, zero percent excess air) of SO_2 emissions into the atmosphere. The monitor shall include an oxygen monitor for correcting the data for excess air.

(i) The span values for this monitor are 500 ppm SO_2 and 25 percent O_2.

(ii) The performance evaluations for this SO_2 monitor under §60.13(c) shall use Performance Specification 2. Methods 6 or 6C and 3 or 3A shall be used for conducting the relative accuracy evaluations.

(6) For Claus sulfur recovery plants with reduction control systems not followed by incineration subject to §60.104(a)(2)(ii), an instrument for continuously monitoring and recording the concentration of reduced sulfur and O_2 emissions into the atmosphere. The reduced sulfur emissions shall be calculated as SO_2 (dry basis, zero percent excess air).

(i) The span values for this monitor are 450 ppm reduced sulfur and 25 percent O_2.

(ii) The performance evaluations for this reduced sulfur (and O_2) monitor under §60.13(c) shall use Performance Specification 5 of Appendix B of this Part (and Performance Specification 3 of Appendix B of this Part for the O_2 analyzer). Methods 15 or 15A and Method 3 shall be used for conducting the relative accuracy evaluations. If Method 3 yields O_2 concentrations below 0.25 percent during the performance specification test, the O_2 concentration may be assumed to be zero and the reduced sulfur CEMS need not include an O_2 monitor.

(e) For the purpose of reports under §60.7(c), periods of excess emissions that shall be determined and reported are defined as follows:

Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

(3) *Sulfur dioxide from fuel gas combustion.*

(ii) All rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system under §60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf).

(4) *Sulfur dioxide from Claus sulfur recovery plants.* (i) All 12-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under §60.105(a)(5) exceeds 250 ppm (dry basis, zero percent excess air); or

(ii) All 12-hour periods during which the average concentration of reduced sulfur (as SO_2) as measured by the reduced sulfur continuous monitoring system under §60.105(a)(6) exceeds 300 ppm; or

§ 60.106 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(e)(1) The owner or operator shall determine compliance with the H_2S standard in §60.104(a)(1) as follows: Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration. The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the refinery fuel gas lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line.

(i) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(ii) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(iii) For Method 15A, a 1-hour sample shall constitute a run.

(f) The owner or operator shall determine compliance with the SO_2 and the H_2S and reduced sulfur standards in §60.104(a)(2) as follows:

(1) Method 6 shall be used to determine the SO_2 concentration. The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm. The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall. The sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf) for each sample. Eight samples of equal sampling times shall be taken at about 30-minute intervals. The arithmetic average of these eight samples shall constitute a run. For Method 6C, a run shall consist of the arithmetic average of four 1-hour samples. Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C. The sampling time for each sample shall be equal to the time it takes for two Method 6 samples. The moisture content from this sample shall be used to correct the corresponding Method 6 samples for moisture. For documenting the oxidation efficiency of the control device for reduced sulfur compounds, Method 15 shall be used following the procedures of paragraph (f)(2) of this section.

(2) Method 15 shall be used to determine the reduced sulfur and H_2 S concentrations. Each run shall consist of 16 samples taken over a minimum of 3 hours. The sampling point shall be the same as that described for Method 6 in paragraph (f)(1) of this section. To ensure minimum residence time for the sample inside the sample lines, the sampling rate shall be at least 3.0 lpm (0.10 cfm). The SO_2 equivalent for each run shall be calculated after being corrected for moisture and oxygen as the arithmetic average of the SO_2 equivalent for each sample during the run. Method 4 shall be used to determine the moisture content of the gases as the paragraph (f)(1) of this section. The sampling time for each sample shall be equal to the time it takes for four Method 15 samples.

(3) The oxygen concentration used to correct the emission rate for excess air shall be obtained by the integrated sampling and analysis procedure of Method 3 or 3A. The samples shall be taken simultaneously with the SO_2, reduced sulfur and H_2S, or moisture samples. The SO_2, reduced sulfur, and H_2S samples shall be corrected to zero percent excess air using the equation in paragraph (h)(6) of this section.

(h)(6) For the purpose of adjusting pollutant concentrations to zero percent oxygen, the following equation shall be used:

$$C_{adj}=C_{meas}[20.9_c/(20.9-\%O_2)]$$

where:

C_{adj}=pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm

C_{meas}=pollutant concentration measured on a dry basis, ppm or g/dscm

20.9_c=20.9 percent oxygen−0.0 percent oxygen (defined oxygen correction basis), percent

20.9=oxygen concentration in air, percent

$\%O_2$=oxygen concentration measured on a dry basis, percent

§ 60.107 Reporting and recordkeeping requirements.

(d) For any periods for which sulfur dioxide or oxides emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected

facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(e) The owner or operator of an affected facility shall submit the reports required under this subpart to the Administrator semiannually for each six-month period. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period.

(f) The owner or operator of the affected facility shall submit a signed statement certifying the accuracy and completeness of the information contained in the report.

E.2.3 One Time Deadlines Relating to NSPS Subpart J

The Permittee shall comply with the following requirements by the dates listed below:

Requirement	Rule Citation	Affected Facility	Deadline
Notification of the date of construction commencement	40 CFR 60.7(a)(1)	Catalytic Oxidizer F-1	No later than 30 days after commencement of construction
Complete Performance Tests	40 CFR 60.8	Catalytic Oxidizer F-1	Within 60-days after achieving maximum production rate but not later than 180-days after initial startup
Notification of initial startup	40 CFR 60.7(a)(3)	Catalytic Oxidizer F-1	Within 15 days of startup
Notification of the date of demonstration of continuous monitoring system performance	40 CFR 60.7(a)(5)	Catalytic Oxidizer F-1	30-days prior to demonstration

SECTION E.3 40 CFR Part 61, Subpart FF – National Emission Standards for Benzene Waste Operations

E.3.1 General Provisions Relating to NESHAP Subpart FF [326 IAC 14-1] [40 CFR Part 61, Subpart A]

Pursuant to 40 CFR Part 61(c), the Permittee shall comply with the provisions of 40 CFR Part 61, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 14-1, except when otherwise specified in 40 CFR Part 61, Subpart FF.

E.3.2 NESHAP Subpart FF Requirements [40 CFR Part 61, Subpart FF] [326 IAC 14]

Pursuant to 40 CFR 61.340(a), the Permittee shall comply with the provisions of 40 CFR Part 61, Subpart FF, which are incorporated by reference as 326 IAC 14, for tanks, containers, individual drain systems, oil-water separators, treatment processes, and closed vent systems that are used for benzene waste operations, as specified below:

Subpart FF—National Emission Standard for Benzene Waste Operations

§61.340 Applicability.

(a) The provisions of this subpart apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries.

(b) The provisions of this subpart apply to owners and operators of hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by any facility listed in paragraph (a) of this section. The waste streams at hazardous waste treatment, storage, and disposal facilities subject to the provisions of this subpart are the benzene-containing hazardous waste from any facility listed in paragraph (a) of this section. A hazardous waste treatment, storage, and disposal facility is a facility that must obtain a hazardous waste management permit under subtitle C of the Solid Waste Disposal Act.

(c) At each facility identified in paragraph (a) or (b) of this section, the following waste is exempt from the requirements of this subpart:

(1) Waste in the form of gases or vapors that is emitted from process fluids:

(2) Waste that is contained in a segregated stormwater sewer system.

§61.342 Standards: General.

(a) An owner or operator of a facility at which the total annual benzene quantity from facility waste is less than 10 megagrams per year (Mg/yr) (11 ton/yr) shall be exempt from the requirements of paragraphs (b) and (c) of this section. The total annual benzene quantity from facility waste is the sum of the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. The benzene quantity in a waste stream is to be counted only once without multiple counting if other waste streams are mixed with or generated from the original waste stream. Other specific requirements for calculating the total annual benzene waste quantity are as follows:

(1) Wastes that are exempted from control under §§61.342(c)(2) and 61.342(c)(3) are included in the calculation of the total annual benzene quantity if they have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.

(2) The benzene in a material subject to this subpart that is sold is included in the calculation of the total annual benzene quantity if the material has an annual average water content greater than 10 percent.

(3) Benzene in wastes generated by remediation activities conducted at the facility, such as the excavation of contaminated soil, pumping and treatment of groundwater, and the recovery of product from soil or groundwater, are not included in the calculation of total annual benzene quantity for that facility. If the facility's total annual benzene quantity is 10 Mg/yr (11 ton/yr) or more, wastes generated by remediation activities are subject to the requirements of paragraphs (c) through (h) of this section. If the facility is managing remediation waste generated offsite, the benzene in this waste shall be included in the calculation of total annual benzene quantity in facility waste, if the waste streams have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.

(4) The total annual benzene quantity is determined based upon the quantity of benzene in the waste before any waste treatment occurs to remove the benzene except as specified in §61.355(c)(1)(i) (A) through (C).

(b) Each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall be in compliance with the requirements of paragraphs (c) through (h) of this section no later than 90 days following the effective date, unless a waiver of compliance has been obtained under §61.11, or by the initial startup for a new source with an initial startup after the effective date.

(c) (1) For each waste stream that contains benzene, including (but not limited to) organic waste streams that contain less than 10 percent water and aqueous waste streams, even if the wastes are not discharged to an individual drain system, the owner or operator shall:

(i) Remove or destroy the benzene contained in the waste using a treatment process or wastewater treatment system that complies with the standards specified in §61.348 of this subpart.

(ii) Comply with the standards specified in §§61.343 through 61.347 of this subpart for each waste management unit that receives or manages the waste stream prior to and during treatment of the waste stream in accordance with paragraph (c)(1)(i) of this section.

(iii) Each waste management unit used to manage or treat waste streams that will be recycled to a process shall comply with the standards specified in §§61.343 through 61.347. Once the waste stream is recycled to a process, including to a tank used for the storage of production process feed, product, or product intermediates, unless this tank is used primarily for the storage of wastes, the material is no longer subject to paragraph (c) of this section.

(c) Each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall manage and treat the facility waste as follows:

(2) A waste stream is exempt from paragraph (c)(1) of this section provided that the owner or operator demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in §61.355(c)(2) or §61.355(c)(3).

(3) A waste stream is exempt from paragraph (c)(1) of this section provided that the owner or operator demonstrates initially and, thereafter, at least once per year that the conditions specified in either paragraph (c)(3)(i) or (c)(3)(ii) of this section are met.

(i) The waste stream is process wastewater that has a flow rate less than 0.02 liters per minute (0.005 gallons per minute) or an annual wastewater quantity of less than 10 Mg/yr (11 ton/yr); or

(ii) All of the following conditions are met:

(A) The owner or operator does not choose to exempt process wastewater under paragraph (c)(3)(i) of this section,

(B) The total annual benzene quantity in all waste streams chosen for exemption in paragraph (c)(3)(ii) of this section does not exceed 2.0 Mg/yr (2.2 ton/yr) as determined in the procedures in §61.355(j), and

(C) The total annual benzene quantity in a waste stream chosen for exemption, including process unit turnaround waste, is determined for the year in which the waste is generated.

(e) As an alternative to the requirements specified in paragraphs (c) and (d) of this section, an owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section may elect to manage and treat the facility waste as follows:

(1) The owner or operator shall manage and treat facility waste with a flow-weighted annual average water content of less than 10 percent in accordance with the requirements of paragraph (c)(1) of this section; and

(2) The owner or operator shall manage and treat facility waste (including remediation and process unit turnaround waste) with a flow-weighted annual average water content of 10 percent or greater, on a volume basis as total water, and each waste stream that is mixed with water or wastes at any time such that the resulting mixture has an annual water content greater than 10 percent, in accordance with the following:

(i) The benzene quantity for the wastes described in paragraph (e)(2) of this section must be equal to or less than 6.0 Mg/yr (6.6 ton/yr), as determined in §61.355(k). Wastes as described in paragraph (e)(2) of this section that are transferred offsite shall be included in the determination of benzene quantity as provided in §61.355(k). The provisions of paragraph (f) of this section shall not apply to any owner or operator who elects to comply with the provisions of paragraph (e) of this section.

(ii) The determination of benzene quantity for each waste stream defined in paragraph (e)(2) of this section shall be made in accordance with §61.355(k).

(f) Rather than treating the waste onsite, an owner or operator may elect to comply with paragraph (c)(1)(i) of this section by transferring the waste offsite to another facility where the waste is treated in accordance with the requirements of paragraph (c)(1)(i) of this section. The owner or operator transferring the waste shall:

(1) Comply with the standards specified in §§61.343 through 61.347 of this subpart for each waste management unit that receives or manages the waste prior to shipment of the waste offsite.

(2) Include with each offsite waste shipment a notice stating that the waste contains benzene which is required to be managed and treated in accordance with the provisions of this subpart.

(g) Compliance with this subpart will be determined by review of facility records and results from tests and inspections using methods and procedures specified in §61.355 of this subpart.

§61.343 Standards: Tanks.

(a) Except as provided in paragraph (b) of this section and in §61.351, the owner or operator must meet the standards in paragraph (a)(1) or (2) of this section for each tank in which the waste stream is placed in accordance with §61.342 (c)(1)(ii). The standards in this section apply to the treatment and storage of the waste stream in a tank, including dewatering.

(1) The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.

(i) The fixed-roof shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv

above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the tank except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the tank is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(*1*) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(*2*) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(*3*) The pressure is monitored continuously to ensure that the pressure in the tank remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of §61.349 of this subpart.

(b) For a tank that meets all the conditions specified in paragraph (b)(1) of this section, the owner or operator may elect to comply with paragraph (b)(2) of this section as an alternative to the requirements specified in paragraph (a)(1) of this section.

(1) The waste managed in the tank complying with paragraph (b)(2) of this section shall meet all of the following conditions:

(i) Each waste stream managed in the tank must have a flow-weighted annual average water content less than or equal to 10 percent water, on a volume basis as total water.

(ii) The waste managed in the tank either:

(A) Has a maximum organic vapor pressure less than 5.2 kilopascals (kPa) (0.75 pounds per square inch (psi));

(B) Has a maximum organic vapor pressure less than 27.6 kPa (4.0 psi) and is managed in a tank having design capacity less than 151 m^3 (40,000 gal); or

(C) Has a maximum organic vapor pressure less than 76.6 kPa (11.1 psi) and is managed in a tank having a design capacity less than 75 m^3 (20,000 gal).

(2) The owner or operator shall install, operate, and maintain a fixed roof as specified in paragraph (a)(1)(i).

(3) For each tank complying with paragraph (b) of this section, one or more devices which vent directly to the atmosphere may be used on the tank provided each device remains in a closed, sealed position during normal operations except when the device needs to open to prevent physical damage or permanent deformation of the tank or cover resulting from filling or emptying the tank, diurnal temperature changes, atmospheric pressure changes or malfunction of the unit in accordance with good engineering and safety practices for handling flammable, explosive, or other hazardous materials.

(c) Each fixed-roof, seal, access door, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access doors and other openings are closed and gasketed properly.

(d) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 45 calendar days after identification.

§61.345 Standards: Containers.

(a) The owner or operator shall meet the following standards for each container in which waste is placed in accordance with §61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain a cover on each container used to handle, transfer, or store waste in accordance with the following requirements:

(i) The cover and all openings (e.g., bungs, hatches, and sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(ii) Except as provided in paragraph (a)(4) of this section, each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the container except when it is necessary to use the opening for waste loading, removal, inspection, or sampling.

(2) When a waste is transferred into a container by pumping, the owner or operator shall perform the transfer using a submerged fill pipe. The submerged fill pipe outlet shall extend to within two fill pipe diameters of the bottom of the container while the container is being loaded. During loading of the waste, the cover shall remain in place and all openings shall be maintained in a closed, sealed position except for those openings required for the submerged fill pipe, those openings required for venting of the container to prevent physical damage or permanent deformation of the container or cover, and any openings complying with paragraph (a)(4) of this section.

(b) Each cover and all openings shall be visually inspected initially and quarterly thereafter to ensure that they are closed and gasketed properly.

(c) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

§61.346 Standards: Individual drain systems.

(a) Except as provided in paragraph (b) of this section, the owner or operator shall meet the following standards for each individual drain system in which waste is placed in accordance with §61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device.

(i) The cover shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the drain system except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the individual drain system is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(*1*) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(*2*) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(*3*) The pressure is monitored continuously to ensure that the pressure in the individual drain system remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with §61.349 of this subpart.

(2) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access hatches and other openings are closed and gasketed properly.

(3) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

(b) As an alternative to complying with paragraph (a) of this section, an owner or operator may elect to comply with the following requirements:

(1) Each drain shall be equipped with water seal controls or a tightly sealed cap or plug.

(2) Each junction box shall be equipped with a cover and may have a vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter.

(i) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance.

(ii) One of the following methods shall be used to control emissions from the junction box vent pipe to the atmosphere:

(A) Equip the junction box with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation. An example of such a system includes use of water seal controls on the junction box. A flow indicator shall be installed, operated, and maintained on each junction box vent pipe to ensure that organic vapors are not vented from the junction box to the atmosphere during normal operation.

(B) Connect the junction box vent pipe to a closed-vent system and control device in accordance with §61.349 of this subpart.

(3) Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

(4) Equipment installed in accordance with paragraphs (b)(1), (b)(2), or (b)(3) of this section shall be inspected as follows:

(i) Each drain using water seal controls shall be checked by visual or physical inspection initially and thereafter quarterly for indications of low water levels or other conditions that would reduce the effectiveness of water seal controls.

(ii) Each drain using a tightly sealed cap or plug shall be visually inspected initially and thereafter quarterly to ensure caps or plugs are in place and properly installed.

(iii) Each junction box shall be visually inspected initially and thereafter quarterly to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge.

(iv) The unburied portion of each sewer line shall be visually inspected initially and thereafter quarterly for indication of cracks, gaps, or other problems that could result in benzene emissions.

(5) Except as provided in §61.350 of this subpart, when a broken seal, gap, crack or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

§61.347 Standards: Oil-water separators.

(a) Except as provided in §61.352 of this subpart, the owner or operator shall meet the following standards for each oil-water separator in which waste is placed in accordance with §61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.

(i) The fixed-roof shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the oil-water separator except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the oil-water separator is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(*1*) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(*2*) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(*3*) The pressure is monitored continuously to ensure that the pressure in the oil-water separator remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of §61.349 of this subpart.

(b) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur between the cover and oil-water separator wall and that access hatches and other openings are closed and gasketed properly.

(c) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

§61.348 Standards: Treatment processes.

(a) Except as provided in paragraph (a)(5) of this section, the owner or operator shall treat the waste stream in accordance with the following requirements:

(1) The owner or operator shall design, install, operate, and maintain a treatment process that either:

(i) Removes benzene from the waste stream to a level less than 10 parts per million by weight (ppmw) on a flow-weighted annual average basis,

(2) Each treatment process complying with paragraphs (a)(1)(i) or (a)(1)(ii) of this section shall be designed and operated in accordance with the appropriate waste management unit standards specified in §§61.343 through 61.347 of this subpart. For example, if a treatment process is a tank, then the owner or operator shall comply with §61.343 of this subpart.

(3) For the purpose of complying with the requirements specified in paragraph (a)(1)(i) of this section, the intentional or unintentional reduction in the benzene concentration of a waste stream by dilution of the waste stream with other wastes or materials is not allowed.

(4) An owner or operator may aggregate or mix together individual waste streams to create a combined waste stream for the purpose of facilitating treatment of waste to comply with the requirements of paragraph (a)(1) of this section except as provided in paragraph (a)(5) of this section.

(5) If an owner or operator aggregates or mixes any combination of process wastewater, product tank drawdown, or landfill leachate subject to §61.342(c)(1) of this subpart together with other waste streams to create a combined waste stream for the purpose of facilitating management or treatment of waste in a wastewater treatment system, then the wastewater treatment system shall be operated in accordance with paragraph (b) of this section. These provisions apply to above-ground wastewater treatment systems as well as those that are at or below ground level.

(c) The owner and operator shall demonstrate that each treatment process or wastewater treatment system unit, except as provided in paragraph (d) of this section, achieves the appropriate conditions specified in paragraphs (a) or (b) of this section in accordance with the following requirements:

(1) Engineering calculations in accordance with requirements specified in §61.356(e) of this subpart; or

(2) Performance tests conducted using the test methods and procedures that meet the requirements specified in §61.355 of this subpart.

(e) Except as specified in paragraph (e)(3) of this section, if the treatment process or wastewater treatment system unit has any openings (e.g., access doors, hatches, etc.), all such openings shall be sealed (e.g., gasketed, latched, etc.) and kept closed at all times when waste is being treated, except during inspection and maintenance.

(1) Each seal, access door, and all other openings shall be checked by visual inspections initially and quarterly thereafter to ensure that no cracks or gaps occur and that openings are closed and gasketed properly.

(2) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

(3) If the cover and closed-vent system operate such that the treatment process and wastewater treatment system unit are maintained at a pressure less than atmospheric pressure, the owner or operator may operate the system with an opening that is not sealed and kept closed at all times if the following conditions are met:

(i) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(ii) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(iii) The pressure is monitored continuously to ensure that the pressure in the treatment process and wastewater treatment system unit remain below atmospheric pressure.

(f) Except for treatment processes complying with paragraph (d) of this section, the Administrator may request at any time an owner or operator demonstrate that a treatment process or wastewater treatment system unit meets the applicable requirements specified in paragraphs (a) or (b) of this section by conducting a performance test using the test methods and procedures as required in §61.355 of this subpart.

(g) The owner or operator of a treatment process or wastewater treatment system unit that is used to comply with the provisions of this section shall monitor the unit in accordance with the applicable requirements in §61.354 of this subpart.

§61.349 Standards: Closed-vent systems and control devices.

(a) For each closed-vent system and control device used to comply with standards in accordance with §§61.343 through 61.348 of this subpart, the owner or operator shall properly design, install, operate, and maintain the closed-vent system and control device in accordance with the following requirements:

(1) The closed-vent system shall:

(i) Be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(ii) Vent systems that contain any bypass line that could divert the vent stream away from a control device used to comply with the provisions of this subpart shall install, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow away from the control device at least once every 15 minutes, except as provided in paragraph (a)(1)(ii)(B) of this section.

(A) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.

(B) Where the bypass line valve is secured in the closed position with a car-seal or a lock-and-key type configuration, a flow indicator is not required.

(iii) All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(iv) For each closed-vent system complying with paragraph (a) of this section, one or more devices which vent directly to the atmosphere may be used on the closed-vent system provided each device remains in a closed, sealed position during normal operations except when the device needs to open to prevent physical damage or permanent deformation of the closed-vent system resulting from malfunction of the unit in accordance with good engineering and safety practices for handling flammable, explosive, or other hazardous materials.

(2) The control device shall be designed and operated in accordance with the following conditions:

(ii) A vapor recovery system (e.g., a carbon adsorption system or a condenser) shall recover or control the organic emissions vented to it with an efficiency of 95 weight percent or greater, or shall recover or control the benzene emissions vented to it with an efficiency of 98 weight percent or greater.

(iv) A control device other than those described in paragraphs (a)(2) (i) through (iii) of this section may be used provided that the following conditions are met:

(A) The device shall recover or control the organic emissions vented to it with an efficiency of 95 weight percent or greater, or shall recover or control the benzene emissions vented to it with an efficiency of 98 weight percent or greater.

(B) The owner or operator shall develop test data and design information that documents the control device will achieve an emission control efficiency of either 95 percent or greater for organic compounds or 98 percent or greater for benzene.

(C) The owner or operator shall identify:

(*1*) The critical operating parameters that affect the emission control performance of the device;

(*2*) The range of values of these operating parameters that ensure the emission control efficiency specified in paragraph (a)(2)(iv)(A) of this section is maintained during operation of the device; and

(*3*) How these operating parameters will be monitored to ensure the proper operation and maintenance of the device.

(D) The owner or operator shall submit the information and data specified in paragraphs (a)(2)(iv) (B) and (C) of this section to the Administrator prior to operation of the alternative control device.

(E) The Administrator will determine, based on the information submitted under paragraph (a)(2)(iv)(D) of this section, if the control device subject to paragraph (a)(2)(iv) of this section meets the requirements of §61.349. The control device subject to paragraph (a)(2)(iv) of this section may be operated prior to receiving approval from the Administrator. However, if the Administrator determines that the control device does not meet the requirements of §61.349, the facility may be subject to enforcement action beginning from the time the control device began operation.

(b) Each closed-vent system and control device used to comply with this subpart shall be operated at all times when waste is placed in the waste management unit vented to the control device except when maintenance or repair of the waste management unit cannot be completed without a shutdown of the control device.

(c) An owner and operator shall demonstrate that each control device, except for a flare, achieves the appropriate conditions specified in paragraph (a)(2) of this section by using one of the following methods:

(1) Engineering calculations in accordance with requirements specified in §61.356(f) of this subpart; or

(2) Performance tests conducted using the test methods and procedures that meet the requirements specified in §61.355 of this subpart.

(e) The Administrator may request at any time an owner or operator demonstrate that a control device meets the applicable conditions specified in paragraph (a)(2) of this section by conducting a performance test using the test methods and procedures as required in §61.355, and for control devices subject to paragraph (a)(2)(iv) of this section, the Administrator may specify alternative test methods and procedures, as appropriate.

(f) Each closed-vent system and control device shall be visually inspected initially and quarterly thereafter. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections.

(g) Except as provided in §61.350 of this subpart, if visible defects are observed during an inspection, or if other problems are identified, or if detectable emissions are measured, a first effort to repair the closed-vent system and control device shall be made as soon as practicable but no later than 5 calendar days after detection. Repair shall be completed no later than 15 calendar days after the emissions are detected or the visible defect is observed.

(h) The owner or operator of a control device that is used to comply with the provisions of this section shall monitor the control device in accordance with §61.354(c) of this subpart.

§61.350 Standards: Delay of repair.

(a) Delay of repair of facilities or units that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown.

(b) Repair of such equipment shall occur before the end of the next facility or unit shutdown.

§61.351 Alternative standards for tanks.

(a) As an alternative to the standards for tanks specified in §61.343 of this subpart, an owner or operator may elect to comply with one of the following:

(1) A fixed roof and internal floating roof meeting the requirements in 40 CFR 60.112b(a)(1);

(2) An external floating roof meeting the requirements of 40 CFR 60.112b (a)(2); or

(b) If an owner or operator elects to comply with the provisions of this section, then the owner or operator is exempt from the provisions of §61.343 of this subpart applicable to the same facilities.

§61.352 Alternative standards for oil-water separators.

(a) As an alternative to the standards for oil-water separators specified in §61.347 of this subpart, an owner or operator may elect to comply with one of the following:

(1) A floating roof meeting the requirements in 40 CFR 60.693–2(a); or

(b) For portions of the oil-water separator where it is infeasible to construct and operate a floating roof, such as over the weir mechanism, a fixed roof vented to a vapor control device that meets the requirements in §§61.347 and 61.349 of this subpart shall be installed and operated.

(c) Except as provided in paragraph (b) of this section, if an owner or operator elects to comply with the provisions of this section, then the owner or operator is exempt from the provisions in §61.347 of this subpart applicable to the same facilities.

§61.354 Monitoring of operations.

(a) Except for a treatment process or waste stream complying with §61.348(d), the owner or operator shall monitor each treatment process or wastewater treatment system unit to ensure the unit is properly operated and maintained by one of the following monitoring procedures:

(1) Measure the benzene concentration of the waste stream exiting the treatment process complying with §61.348(a)(1)(i) at least once per month by collecting and analyzing one or more samples using the procedures specified in §61.355(c)(3).

(2) Install, calibrate, operate, and maintain according to manufacturer's specifications equipment to continuously monitor and record a process parameter (or parameters) for the treatment process or wastewater treatment system unit that indicates proper system operation. The owner or operator shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the unit is operating properly.

(c) An owner or operator subject to the requirements in §61.349 of this subpart shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor the control device operation as specified in the following paragraphs, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator. The owner or operator

shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the control device is operating properly.

(d) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(f) Owners or operators using a closed-vent system that contains any bypass line that could divert a vent stream from a control device used to comply with the provisions of this subpart shall do the following:

(1) Visually inspect the bypass line valve at least once every month, checking the position of the valve and the condition of the car-seal or closure mechanism required under §61.349(a)(1)(ii) to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(2) Visually inspect the readings from each flow monitoring device required by §61.349(a)(1)(ii) at least once each operating day to check that vapors are being routed to the control device as required.

(g) Each owner or operator who uses a system for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device equipped with a continuous recorder to monitor the pressure in the unit to ensure that it is less than atmospheric pressure.

§61.355 Test methods, procedures, and compliance provisions.

(a) An owner or operator shall determine the total annual benzene quantity from facility waste by the following procedure:

(1) For each waste stream subject to this subpart having a flow-weighted annual average water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in §61.342(a), the owner or operator shall:

(i) Determine the annual waste quantity for each waste stream using the procedures specified in paragraph (b) of this section.

(ii) Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in paragraph (c) of this section.

(iii) Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.

(2) Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to paragraph (b)(4) of this section.

(3) If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall comply with the requirements of §61.342 (c), (d), or (e).

(6) The benzene quantity in a waste stream that is generated less than one time per year, except as provided for process unit turnaround waste in paragraph (b)(4) of this section, shall be included in the

determination of total annual benzene quantity from facility waste for the year in which the waste is generated unless the waste stream is otherwise excluded from the determination of total annual benzene quantity from facility waste in accordance with paragraphs (a) through (c) of this section. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste, for purposes of determining the total annual benzene quantity from facility waste.

(b) For purposes of the calculation required by paragraph (a) of this section, an owner or operator shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in paragraphs (b) (1), (2), (3), and (4) of this section, by one of the methods given in paragraphs (b) (5) through (7) of this section.

(1) The determination of annual waste quantity for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

(3) The determination of annual waste quantity for wastes that are received at hazardous waste treatment, storage, or disposal facilities from offsite shall be made at the point where the waste enters the hazardous waste treatment, storage, or disposal facility.(4) The determination of annual waste quantity for each process unit turnaround waste generated only at 2 year or greater intervals, may be made by dividing the total quantity of waste generated during the most recent process unit turnaround by the time period (in the nearest tenth of a year) between the turnaround resulting in generation of the waste and the most recent preceding process turnaround for the unit. The resulting annual waste quantity shall be included in the calculation of the annual benzene quantity as provided in paragraph (a)(1)(iii) of this section for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process turnaround. For estimates of total annual benzene quantity as specified in the 90-day report, required under §61.357(a)(1), the owner or operator shall estimate the waste quantity generated during the most recent turnaround, and the time period between turnarounds in accordance with good engineering practices. If the owner or operator chooses not to annualize process unit turnaround waste, as specified in this paragraph, then the process unit turnaround waste quantity shall be included in the calculation of the annual benzene quantity for the year in which the turnaround occurs.

(5) Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation or, if the facility has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the facility;

(6) Use the maximum design capacity of the waste management unit; or

(7) Use measurements that are representative of maximum waste generation rates.

(c) For the purposes of the calculation required by §§61.355(a) of this subpart, an owner or operator shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in paragraph (c)(1) of this section using either of the methods given in paragraphs (c)(2) and (c)(3) of this section.

(1) The determination of flow-weighted annual average benzene concentration shall meet all of the following criteria:

(i) The determination shall be made at the point of waste generation except for the specific cases given in paragraphs (c)(1)(i)(A) through (D) of this section.

(A) The determination for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

(C) The determination for wastes that are received from offsite shall be made at the point where the waste enters the hazardous waste treatment, storage, or disposal facility.

(D) The determination of flow-weighted annual average benzene concentration for process unit turnaround waste shall be made using either of the methods given in paragraph (c)(2) or (c)(3) of this section. The resulting flow-weighted annual average benzene concentration shall be included in the calculation of annual benzene quantity as provided in paragraph (a)(1)(iii) of this section for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process unit turnaround.

(ii) Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.

(iii) Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination—to reduce the benzene concentration.

(iv) The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in paragraphs (c)(1)(i)(A) through (D) of this section.

(v) For wastes with multiple phases, the determination shall provide the weighted-average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.

(2) *Knowledge of the waste.* The owner or operator shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are still relevant to the current waste stream conditions. If test data are used, then the owner or operator shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When an owner or operator and the Administrator do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under paragraph (c)(3) of this section shall be used to resolve the disagreement.

(3) Measurements of the benzene concentration in the waste stream in accordance with the following procedures:

(i) Collect a minimum of three representative samples from each waste stream. Where feasible, samples shall be taken from an enclosed pipe prior to the waste being exposed to the atmosphere.

(ii) For waste in enclosed pipes, the following procedures shall be used:

(A) Samples shall be collected prior to the waste being exposed to the atmosphere in order to minimize the loss of benzene prior to sampling.

(B) A static mixer shall be installed in the process line or in a by-pass line unless the owner or operator demonstrates that installation of a static mixer in the line is not necessary to accurately determine the benzene concentration of the waste stream.

(C) The sampling tap shall be located within two pipe diameters of the static mixer outlet.

(D) Prior to the initiation of sampling, sample lines and cooling coil shall be purged with at least four volumes of waste.

(E) After purging, the sample flow shall be directed to a sample container and the tip of the sampling tube shall be kept below the surface of the waste during sampling to minimize contact with the atmosphere.

(F) Samples shall be collected at a flow rate such that the cooling coil is able to maintain a waste temperature less than 10 °C (50 °F).

(G) After filling, the sample container shall be capped immediately (within 5 seconds) to leave a minimum headspace in the container.

(H) The sample containers shall immediately be cooled and maintained at a temperature below 10 °C (50 °F) for transfer to the laboratory.

(iii) When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of benzene prior to sampling.

(iv) Each waste sample shall be analyzed using one of the following test methods for determining the benzene concentration in a waste stream:

(A) Method 8020, Aromatic Volatile Organics, in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW–846 (incorporation by reference as specified in §61.18 of this part);

(B) Method 8021, Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW–846 (incorporation by reference as specified in §61.18 of this part);

(C) Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW–846 (incorporation by reference as specified in §61.18 of this part);

(D) Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics: Capillary Column Technique in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW–846 (incorporation by reference as specified in §61.18 of this part);

(E) Method 602, Purgeable Aromatics, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA methods; or

(F) Method 624, Purgeables, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA method.

(v) The flow-weighted annual average benzene concentration shall be calculated by averaging the results of the sample analyses as follows:

$$\overline{C} = \frac{1}{Q_t} \times \sum_{i=1}^{n} (Q_i)(C_i)$$

Where:

C =Flow-weighted annual average benzene concentration for waste stream, ppmw.

Q_t=Total annual waste quantity for waste stream, kg/yr (lb/yr).

n=Number of waste samples (at least 3).

Q_i=Annual waste quantity for waste stream represented by C_i, kg/yr (lb/yr).

C_i=Measured concentration of benzene in waste sample i, ppmw.

(d) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348 (a)(1)(i) shall measure the flow-weighted annual average benzene concentration of the waste stream exiting the treatment process by collecting and analyzing a minimum of three representative

samples of the waste stream using the procedures in paragraph (c)(3) of this section. The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(e) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348(a)(1)(ii) of this subpart shall determine the percent reduction of benzene in the waste stream on a mass basis by the following procedure:

(1) The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(2) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(3) The mass flow rate of benzene entering the treatment process (E_b) shall be determined by computing the product of the flow rate of the waste stream entering the treatment process, as determined by the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over a 3-hour period. The mass flow rate of benzene entering the treatment process is calculated as follows:

$$E_b = \frac{K}{n \times 10^6}\left[\sum_{i=1}^{n} V_i C_i\right]$$

Where:

E_b = Mass flow rate of benzene entering the treatment process, kg/hr (lb/hr).

K = Density of the waste stream, kg/m ^{3} (lb/ft ^{3}).

V_i = Average volume flow rate of waste entering the treatment process during each run i, m ^{3} /hr (ft ^{3} /hr).

C_i = Average concentration of benzene in the waste stream entering the treatment process during each run i, ppmw.

n = Number of runs.

10 ^{6} = Conversion factor for ppmw.

(4) The mass flow rate of benzene exiting the treatment process (E_a) shall be determined by computing the product of the flow rate of the waste stream exiting the treatment process, as determined by the outlet flow meter or the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over the same 3-hour period at which the mass flow rate of benzene entering the treatment process is determined. The mass flow rate of benzene exiting the treatment process is calculated as follows:

$$E_a = \frac{K}{n \times 10^6}\left[\sum_{i=1}^{n} V_i C_i\right]$$

Where:

E_a = Mass flow rate of benzene exiting the treatment process, kg/hr (lb/hr).

K = Density of the waste stream, kg/m ^{3} (lb/ft ^{3}).

V_i = Average volume flow rate of waste exiting the treatment process during each run i, m ^{3} /hr (ft ^{3} /hr).

C_i = Average concentration of benzene in the waste stream exiting the treatment process during each run i, ppmw.

n = Number of runs.

10 ^{6} = Conversion factor for ppmw.

(h) An owner or operator shall test equipment for compliance with no detectable emissions as required in §§61.343 through 61.347, and §61.349 of this subpart in accordance with the following requirements:

(1) Monitoring shall comply with Method 21 from appendix A of 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance.

(i) An owner or operator using a performance test to demonstrate compliance of a control device with either the organic reduction efficiency requirement or the benzene reduction efficiency requirement specified under §61.349(a)(2) shall use the following procedures:

(1) The test shall be conducted under conditions that exist when the waste management unit vented to the control device is operating at the highest load or capacity level expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information necessary to document the operating conditions during the test.

(2) Sampling sites shall be selected using Method 1 or 1A from appendix A of 40 CFR part 60, as appropriate.

(3) The mass flow rate of either the organics or benzene entering and exiting the control device shall be determined as follows:

(i) The time period for the test shall not be less than 3 hours during which at least 3 stack gas samples are collected. Samples of the vent stream entering and exiting the control device shall be collected during the same time period. Each sample shall be collected over a 1-hour period (e.g., in a tedlar bag) to represent a time-integrated composite sample.

(ii) A run shall consist of a 1-hour period during the test. For each run:

(A) The reading from each measurement shall be recorded;

(B) The volume exhausted shall be determined using Method 2, 2A, 2C, or 2D from appendix A of 40 CFR part 60, as appropriate;

(C) The organic concentration or the benzene concentration, as appropriate, in the vent stream entering and exiting the control shall be determined using Method 18 from appendix A of 40 CFR part 60.

(iii) The mass of organics or benzene entering and exiting the control device during each run shall be calculated as follows:

$$M_{aj} = \frac{K_1 V_{aj}}{10^6}\left(\sum_{i=1}^{n} C_{ai} MW_i\right)$$

$$M_{bj} = \frac{K_1 V_{bj}}{10^6}\left(\sum_{i=1}^{n} C_{bi} MW_i\right)$$

M_{aj} = Mass of organics or benzene in the vent stream entering the control device during run j, kg (lb).

M_{bj} = Mass of organics or benzene in the vent stream exiting the control device during run j, kg (lb).

V_{aj} = Volume of vent stream entering the control device during run j, at standard conditions, m^3 (ft^3).

V_{bj} = Volume of vent stream exiting the control device during run j, at standard conditions, m^3 (ft^3).

C_{ai} = Organic concentration of compound i or the benzene concentration measured in the vent stream entering the control device as determined by Method 18, ppm by volume on a dry basis.

C_{bi} = Organic concentration of compound i or the benzene concentration measured in the vent stream exiting the control device as determined by Method 18, ppm by volume on a dry basis.

MW_i = Molecular weight of organic compound i in the vent stream, or the molecular weight of benzene, kg/kg-mol (lb/lb-mole).

n = Number of organic compounds in the vent stream; if benzene reduction efficiency is being demonstrated, then n=1.

K_1 = Conversion factor for molar volume at standard conditions (293 K and 760 mm Hg (527 R and 14.7 psia))

= 0.0416 kg-mol/m^3 (0.00118 lb-mol/ft^3)

10^{-6}=Conversion factor for ppmv.

(iv) The mass flow rate of organics or benzene entering and exiting the control device shall be calculated as follows:

$$E_a = \left(\sum_{j=1}^{n} M_{aj} \right) / T$$

$$E_b = \left(\sum_{j=1}^{n} M_{bj} \right) / T$$

Where:

E_a = Mass flow rate of organics or benzene entering the control device, kg/hr (lb/hr).

E_b = Mass flow rate of organics or benzene exiting the control device, kg/hr (lb/hr).

M_{aj} = Mass of organics or benzene in the vent stream entering the control device during run j, kg (lb).

M_{bj} = Mass of organics or benzene in the vent stream exiting the control device during run j, kg (lb).

T = Total time of all runs, hr.

n = Number of runs.

(4) The organic reduction efficiency or the benzene reduction efficiency for the control device shall be calculated as follows:

$$R = \frac{E_a - E_b}{E_a} \times 100$$

Where:

R = Total organic reduction of efficiency or benzene reduction efficiency for the control device, percent.

E_b = Mass flow rate of organics or benzene entering the control device, kg/hr (lb/hr).

E_a = Mass flow rate of organic or benzene emitted from the control device, kg/hr (lb/hr).

(j) An owner or operator shall determine the benzene quantity for the purposes of the calculation required by §61.342 (c)(3)(ii)(B) according to the provisions of paragraph (a) of this section, except that the procedures in paragraph (a) of this section shall also apply to wastes with a water content of 10 percent or less.

(k) An owner or operator shall determine the benzene quantity for the purposes of the calculation required by §61.342(e)(2) by the following procedure:

(1) For each waste stream that is not controlled for air emissions in accordance with §61.343. 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, the benzene quantity shall be determined as specified in paragraph (a) of this section, except that paragraph (b)(4) of this section shall not apply, i.e., the waste quantity for process unit turnaround waste is not annualized but shall be included in the determination of benzene quantity for the year in which the waste is generated for the purposes of the calculation required by §61.342(e)(2).

(2) For each waste stream that is controlled for air emissions in accordance with §61.343. 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, the determination of annual waste quantity and flow-weighted annual average benzene concentration shall be made at the first applicable location as described in paragraphs (k)(2)(i), (k)(2)(ii), and (k)(2)(iii) of this section and prior to any reduction of benzene concentration through volatilization of the benzene, using the methods given in (k)(2)(iv) and (k)(2)(v) of this section.

(i) Where the waste stream enters the first waste management unit not complying with §§61.343, 61.344, 61.345, 61.346, 61.347, and 61.348(a) that are applicable to the waste management unit,

(ii) For each waste stream that is managed or treated only in compliance with §§61.343 through 61.348(a) up to the point of final direct discharge from the facility, the determination of benzene quantity shall be prior to any reduction of benzene concentration through volatilization of the benzene, or

(iii) For wastes managed in units controlled for air emissions in accordance with §§61.343, 61.344, 61.345, 61.346, 61.347, and 61.348(a), and then transferred offsite, facilities shall use the first applicable offsite location as described in paragraphs (k)(2)(i) and (k)(2)(ii) of this section if they have documentation from the offsite facility of the benzene quantity at this location. Facilities without this documentation for offsite wastes shall use the benzene quantity determined at the point where the transferred waste leaves the facility.

(iv) Annual waste quantity shall be determined using the procedures in paragraphs (b)(5), (6), or (7) of this section, and

(v) The flow-weighted annual average benzene concentration shall be determined using the procedures in paragraphs (c)(2) or (3) of this section.

(3) The benzene quantity in a waste stream that is generated less than one time per year, including process unit turnaround waste, shall be included in the determination of benzene quantity as determined in paragraph (k)(6) of this section for the year in which the waste is generated. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste for purposes of determining benzene quantity as determined in paragraph (k)(6) of this section.

(4) The benzene in waste entering an enhanced biodegradation unit, as defined in §61.348(b)(2)(ii)(B), shall not be included in the determination of benzene quantity, determined in paragraph (k)(6) of this section, if the following conditions are met:

(i) The benzene concentration for each waste stream entering the enhanced biodegradation unit is less than 10 ppmw on a flow-weighted annual average basis, and

(ii) All prior waste management units managing the waste comply with §§61.343, 61.344, 61.345, 61.346, 61.347 and 61.348(a).

(5) The benzene quantity for each waste stream in paragraph (k)(2) of this section shall be determined by multiplying the annual waste quantity of each waste stream times its flow-weighted annual average benzene concentration.

(6) The total benzene quantity for the purposes of the calculation required by §61.342(e)(2) shall be determined by adding together the benzene quantities determined in paragraphs (k)(1) and (k)(5) of this section for each applicable waste stream.

(7) If the benzene quantity determined in paragraph (6) of this section exceeds 6.0 Mg/yr (6.6 ton/yr) only because of multiple counting of the benzene quantity for a waste stream, the owner or operator may use the following procedures for the purposes of the calculation required by §61.342(e)(2):

(i) Determine which waste management units are involved in the multiple counting of benzene;

(ii) Determine the quantity of benzene that is emitted, recovered, or removed from the affected units identified in paragraph (k)(7)(i) of this section, or destroyed in the units if applicable, using either direct measurements or the best available estimation techniques developed or approved by the Administrator.

(iii) Adjust the benzene quantity to eliminate the multiple counting of benzene based on the results from paragraph (k)(7)(ii) of this section and determine the total benzene quantity for the purposes of the calculation required by §61.342(e)(2).

(iv) Submit in the annual report required under §61.357(a) a description of the methods used and the resulting calculations for the alternative procedure under paragraph (k)(7) of this section, the benzene quantity determination from paragraph (k)(6) of this section, and the adjusted benzene quantity determination from paragraph (k)(7)(iii) of this section.

§61.356 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.

(b) Each owner or operator shall maintain records that identify each waste stream at the facility subject to this subpart, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with this subpart. In addition the owner or operator shall maintain the following records:

(1) For each waste stream not controlled for benzene emissions in accordance with this subpart, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(4) For each facility where waste streams are controlled for benzene emissions in accordance with §61.342(e), the records shall include for each waste stream all measurements, including the locations of the measurements, calculations, and other documentation used to determine that the total benzene quantity does not exceed 6.0 Mg/yr (6.6 ton/yr).

(5) For each facility where the annual waste quantity for process unit turnaround waste is determined in accordance with §61.355(b)(5), the records shall include all test results, measurements, calculations, and other documentation used to determine the following information: identification of each process unit at the facility that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with §61.355(b)(5), the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with §61.355(a)(1)(iii) of this section.

(c) An owner or operator transferring waste off-site to another facility for treatment in accordance with §61.342(f) shall maintain documentation for each offsite waste shipment that includes the following information: Date waste is shipped offsite, quantity of waste shipped offsite, name and address of the facility receiving the waste, and a copy of the notice sent with the waste shipment.

(d) An owner or operator using control equipment in accordance with §§61.343 through 61.347 shall maintain engineering design documentation for all control equipment that is installed on the waste management unit. The documentation shall be retained for the life of the control equipment. If a control device is used, then the owner or operator shall maintain the control device records required by paragraph (f) of this section.

(e) An owner or operator using a treatment process or wastewater treatment system unit in accordance with §61.348 of this subpart shall maintain the following records. The documentation shall be retained for the life of the unit.

(1) A statement signed and dated by the owner or operator certifying that the unit is designed to operate at the documented performance level when the waste stream entering the unit is at the highest waste stream flow rate and benzene content expected to occur.

(2) If engineering calculations are used to determine treatment process or wastewater treatment system unit performance, then the owner or operator shall maintain the complete design analysis for the unit. The design analysis shall include for example the following information: Design specifications, drawings, schematics, piping and instrumentation diagrams, and other documentation necessary to demonstrate the unit performance.

(3) If performance tests are used to determine treatment process or wastewater treatment system unit performance, then the owner or operator shall maintain all test information necessary to demonstrate the unit performance.

(i) A description of the unit including the following information: type of treatment process; manufacturer name and model number; and for each waste stream entering and exiting the unit, the waste stream type (e.g., process wastewater, sludge, slurry, etc.), and the design flow rate and benzene content.

(ii) Documentation describing the test protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the unit performance. The description of the test protocol shall include the following information: sampling locations, sampling method, sampling frequency, and analytical procedures used for sample analysis.

(iii) Records of unit operating conditions during each test run including all key process parameters.

(iv) All test results.

(4) If a control device is used, then the owner or operator shall maintain the control device records required by paragraph (f) of this section.

(f) An owner or operator using a closed-vent system and control device in accordance with §61.349 of this subpart shall maintain the following records. The documentation shall be retained for the life of the control device.

(1) A statement signed and dated by the owner or operator certifying that the closed-vent system and control device is designed to operate at the documented performance level when the waste management unit vented to the control device is or would be operating at the highest load or capacity expected to occur.

(2) If engineering calculations are used to determine control device performance in accordance with §61.349(c), then a design analysis for the control device that includes for example:

(i) Specifications, drawings, schematics, and piping and instrumentation diagrams prepared by the owner or operator, or the control device manufacturer or vendor that describe the control device design based on acceptable engineering texts. The design analysis shall address the following vent stream characteristics and control device operating parameters:

(G) For a carbon adsorption system that does not regenerate the carbon bed directly on-site in the control device, such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(H) For a control device subject to the requirements of §61.349(a)(2)(iv), the design analysis shall consider the vent stream composition, constituent concentration, and flow rate. The design analysis shall also include all of the information submitted under §61.349 (a)(2)(iv).

(g) An owner or operator shall maintain a record for each visual inspection required by §§61.343 through 61.347 of this subpart that identifies a problem (such as a broken seal, gap or other problem) which could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

(h) An owner or operator shall maintain a record for each test of no detectable emissions required by §§61.343 through 61.347 and §61.349 of this subpart. The record shall include the following information: date the test is performed, background level measured during test, and maximum concentration indicated by the instrument reading measured for each potential leak interface. If detectable emissions are measured at a leak interface, then the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

(i) For each treatment process and wastewater treatment system unit operated to comply with §61.348, the owner or operator shall maintain documentation that includes the following information regarding the unit operation:

(1) Dates of startup and shutdown of the unit.

(2) If measurements of waste stream benzene concentration are performed in accordance with §61.354(a)(1) of this subpart, the owner or operator shall maintain records that include date each test is performed and all test results.

(3) If a process parameter is continuously monitored in accordance with §61.354(a)(2) of this subpart, the owner or operator shall maintain records that include a description of the operating parameter (or parameters) to be monitored to ensure that the unit will be operated in conformance with these standards and the unit's design specifications, and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the unit.

(5) Periods when the unit is not operated as designed.

(j) For each control device, the owner or operator shall maintain documentation that includes the following information regarding the control device operation:

(1) Dates of startup and shutdown of the closed-vent system and control device.

(2) A description of the operating parameter (or parameters) to be monitored to ensure that the control device will be operated in conformance with these standards and the control device's design specifications and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the control device.

(3) Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when:

(i) Any valve car-seal or closure mechanism required under §61.349(a)(1)(ii) is broken or the by-pass line valve position has changed.

(ii) The flow monitoring devices required under §61.349(a)(1)(ii) indicate that vapors are not routed to the control device as required.

(9) If a carbon adsorber is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas

stream. If the concentration of organics or the concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(10) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

(11) If an alternative operational or process parameter is monitored for a control device, as allowed in §61.354(e) of this subpart, then the owner or operator shall maintain records of the continuously monitored parameter, including periods when the device is not operated as designed.

(12) If a control device subject to the requirements of §61.349(a)(2)(iv) is used, then the owner or operator shall maintain records of the parameters that are monitored and each occurrence when the parameters monitored are outside the range of values specified in §61.349(a)(2)(iv)(C), or other records as specified by the Administrator.

(k) An owner or operator who elects to install and operate the control equipment in §61.351 of this subpart shall comply with the recordkeeping requirements in 40 CFR 60.115b.

(l) An owner or operator who elects to install and operate the control equipment in §61.352 of this subpart shall maintain records of the following:

(1) The date, location, and corrective action for each visual inspection required by 40 CFR 60.693–2(a)(5), during which a broken seal, gap, or other problem is identified that could result in benzene emissions.

(2) Results of the seal gap measurements required by 40 CFR 60.693–2(a).

(m) If a system is used for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air, then the owner or operator shall maintain records of the monitoring device and records of all periods during which the pressure in the unit is operated at a pressure that is equal to or greater than atmospheric pressure.

§61.357 Reporting requirements.

(a) Each owner or operator of a chemical plant, petroleum refinery, coke by-product recovery plant, and any facility managing wastes from these industries shall submit to the Administrator within 90 days after January 7, 1993, or by the initial startup for a new source with an initial startup after the effective date, a report that summarizes the regulatory status of each waste stream subject to §61.342 and is determined by the procedures specified in §61.355(c) to contain benzene. Each owner or operator subject to this subpart who has no benzene onsite in wastes, products, by-products, or intermediates shall submit an initial report that is a statement to this effect. For all other owners or operators subject to this subpart, the report shall include the following information:

(1) Total annual benzene quantity from facility waste determined in accordance with §61.355(a) of this subpart.

(2) A table identifying each waste stream and whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of this subpart.

(3) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart the following information shall be added to the table:

(i) Whether or not the water content of the waste stream is greater than 10 percent;

(ii) Whether or not the waste stream is a process wastewater stream, product tank drawdown, or landfill leachate;

(iii) Annual waste quantity for the waste stream;

(iv) Range of benzene concentrations for the waste stream;

(v) Annual average flow-weighted benzene concentration for the waste stream; and

(vi) Annual benzene quantity for the waste stream.

(4) The information required in paragraphs (a) (1), (2), and (3) of this section should represent the waste stream characteristics based on current configuration and operating conditions. An owner or operator only needs to list in the report those waste streams that contact materials containing benzene. The report does not need to include a description of the controls to be installed to comply with the standard or other information required in §61.10(a).

(d) If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall submit to the Administrator the following reports:

(1) Within 90 days after January 7, 1993, unless a waiver of compliance under §61.11 of this part is granted, or by the date of initial startup for a new source with an initial startup after the effective date, a certification that the equipment necessary to comply with these standards has been installed and that the required initial inspections or tests have been carried out in accordance with this subpart. If a waiver of compliance is granted under §61.11, the certification of equipment necessary to comply with these standards shall be submitted by the date the waiver of compliance expires.

(2) Beginning on the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section. If the information in the annual report required by paragraphs (a)(1) through (a)(3) of this section is not changed in the following year, the owner or operator may submit a statement to that effect.

(5) If an owner or operator elects to comply with the alternative requirements of §61.342(e), then the report required by paragraph (d)(2) of this section shall include a table presenting the following information for each waste stream:

(i) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart; the table shall report the following information for the waste stream as determined at the point of waste generation: annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity;

(ii) For each waste stream identified as being controlled for benzene emissions in accordance with the requirements of this subpart; the table shall report the following information for the waste stream as determined at the applicable location described in §61.355(k)(2): Annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(6) Beginning 3 months after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit quarterly to the Administrator a certification that all of the required inspections have been carried out in accordance with the requirements of this subpart.

(7) Beginning 3 months after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit a report quarterly to the Administrator that includes:

(i) If a treatment process or wastewater treatment system unit is monitored in accordance with §61.354(a)(1) of this subpart, then each period of operation during which the concentration of benzene in the monitored waste stream exiting the unit is equal to or greater than 10 ppmw.

(iv) For a control device monitored in accordance with §61.354(c) of this subpart, each period of operation monitored during which any of the following conditions occur, as applicable to the control device:

(I) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly on site in the control device is not replaced at the predetermined interval specified in §61.354(c) of this subpart.

(J) Each 3-hour period of operation during which the parameters monitored are outside the range of values specified in §61.349(a)(2)(iv)(C), or any other periods specified by the Administrator for a control device subject to the requirements of §61.349(a)(2)(iv).

(v) For a cover and closed-vent system monitored in accordance with §61.354(g), the owner or operator shall submit a report quarterly to the Administrator that identifies any period in which the pressure in the waste management unit is equal to or greater than atmospheric pressure.

(8) Beginning one year after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Administrator a report that summarizes all inspections required by §§61.342 through 61.354 during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzone emissions is identified, including information about the repairs or corrective action taken.

(e) An owner or operator electing to comply with the provisions of §§61.351 or 61.352 of this subpart shall notify the Administrator of the alternative standard selected in the report required under §61.07 or §61.10 of this part.

(f) An owner or operator who elects to install and operate the control equipment in §61.351 of this subpart shall comply with the reporting requirements in 40 CFR 60.115b.

(g) An owner or operator who elects to install and operate the control equipment in §61.352 of this subpart shall submit initial and quarterly reports that identify all seal gap measurements, as required in 40 CFR 60.693–2(a), that are outside the prescribed limits.

SECTION E.4 40 CFR Part 60, Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

E.4.1 NSPS Subpart VV Requirements [40 CFR Part 60, Subpart VV] [326 IAC 12]

Pursuant to 40 CFR 60.590 and 63.648, the Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart VV for all affected pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves and lines, valves, connectors, and closed vent systems as specified below:

Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

§60.482-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482–1 through 60.482–10 or §60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§60.482–1 to 60.482–10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485.

(d) Equipment that is in vacuum service is excluded from the requirements of §§60.482–2 to 60.482–10 if it is identified as required in §60.486(e)(5).

§ 60.482-2 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485(b), except as provided in §60.482–1(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *Provided* the following requirements are met:

(1) Each dual mechanical seal system is—

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipment with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm, and

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii), a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in §60.486(e)(1) and (2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485(c), and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482–10, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

§ 60.482-3 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482–1(c) and paragraph (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482–10, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §60.486(e) (1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)–(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482(a), (b), (c), (d), (e), and (h), provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as

soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482–9.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482–10 is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482–9.

§ 60.482-5 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in §60.482–1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482–10; or

(4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 60.482-6 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482–1(c).

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.

(a) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), §60.483–1, 2, and §60.482–1(c).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482–9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §60.482–7(e).

§ 60.482-9 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482–10.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

§ 60.482-10 Standards: Closed vent systems and control devices.

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486(c).

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§ 60.485 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§60.482, 60.483, and 60.484 as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable emission standards in §§60.482–2(e), 60.482–3(i), 60.482–4, 60.482–7(f), and 60.482–10(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d) (1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$V_{max} = K_1 + K_2 H_T$ Where:

V_{max} = Maximum permitted velocity, m/sec (ft/sec)

H_T = Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K_1 = 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K_2 = 0.7084 m^4 /(MJ-sec) (metric units)

= 0.087 ft^4 /(Btu-sec) (English units)

(4) The net heating value (H_T) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

K = Conversion constant, 1.740 × 10^7 (g-mole)(MJ)/ (ppm-scm-kcal) (metric units)

= 4.674 × 10^8 [(g-mole)(Btu)/(ppm-scf-kcal)] (English units)

C_i = Concentration of sample component “i,” ppm

H_i = net heat of combustion of sample component “i” at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

(5) Method 18 and ASTM D2504–67, 77, or 88 (Reapproved 1993) (incorporated by reference—see §60.17) shall be used to determine the concentration of sample component “i.”

(6) ASTM D2382–76 or 88 or D4809–95 (incorporated by reference—see §60.17) shall be used to determine the net heat of combustion of component “i” if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

§ 60.486 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) “Above 10,000” if the maximum instrument reading measured by the methods specified in §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §60.482–10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5.

(e) The following information pertaining to all equipment subject to the requirements in §§60.482–1 to 60.482–10 shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482–2(e), 60.482–3(i) and 60.482–7(f).

(ii) The designation of equipment as subject to the requirements of §60.482–2(e), §60.482–3(i), or §60.482–7(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482–4.

(4)(i) The dates of each compliance test as required in §§60.482–2(e), 60.482–3(i), 60.482–4, and 60.482–7(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of §60.482–7(g) and (h) and to all pumps subject to the requirements of §60.482–2(g) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with §60.483–2:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§60.482–2(d)(5) and 60.482–3(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of §60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

§ 60.487 Reporting requirements.

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of §60.482–7, excluding those valves designated for no detectable emissions under the provisions of §60.482–7(f).

(3) Number of pumps subject to the requirements of §60.482–2, excluding those pumps designated for no detectable emissions under the provisions of §60.482–2(e) and those pumps complying with §60.482–2(f).

(4) Number of compressors subject to the requirements of §60.482–3, excluding those compressors designated for no detectable emissions under the provisions of §60.482–3(i) and those compressors complying with §60.482–3(h).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in §60.482(7)(b) or §60.483–2,

(ii) Number of valves for which leaks were not repaired as required in §60.482–7(d)(1),

(iii) Number of pumps for which leaks were detected as described in §60.482–2(b) and (d)(6)(i),

(iv) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6)(ii),

(v) Number of compressors for which leaks were detected as described in §60.482–3(f),

(vi) Number of compressors for which leaks were not repaired as required in §60.482–3(g)(1), and

(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.

§ 60.488 Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under §60.15: pump seals, nuts and bolts, rupture disks, and packings.

(b) Under §60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in §60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

E.4.2 One Time Deadlines Relating to NSPS Subpart VV

The Permittee shall comply with the following requirements by the dates listed below:

Requirement	Rule Citation	Affected Facility	Deadline
Notification of the date of construction commencement	40 CFR 60.7(a)(1)	Pumps, Valves, and Connectors.	No later than 30 days after commencement of construction
Complete Performance	40 CFR 60.8	Pumps,	Within 60-days after

Requirement	Rule Citation	Affected Facility	Deadline
Tests		Valves, and Connectors	achieving maximum production rate but not later than 180-days after initial startup
Notification of Schedule of Initial Performance Tests	40 CFR 60.487(e)	Pumps, Valves, and Connectors	At least 30-days prior to initial performance tests
Notification of initial startup	40 CFR 60.7(a)(3)	Pumps, Valves, and Connectors	Within 15 days of startup
Demonstrate Initial Compliance	40 CFR 60.482-1(a)	Pumps, Valves, and Connectors	Within 180-days of initial startup
Initial Semiannual Report	40 CFR 60.487(a)	Pumps, Valves, and Connectors	Six months after the initial startup date or in the next semi-annual report submitted for the existing equipment at the refinery after startup of the new equipment

SECTION E.5 40 CFR Part 61, Subpart J – National Emission Standards for Equipment Leaks (Fugitive Emission Sources) of Benzene And 40 CFR Part 61 Subpart V – National Emission Standards for Equipment Leaks (Fugitive Emission Sources)

E.5.1 General Provisions Relating to NESHAPs [326 IAC 14-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 61.1(c), the Permittee shall comply with the provisions of 40 CFR Part 61, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 14-1, for each pump, pressure relief device, sampling connection system, open-ended valve, open-ended line, and valve that are operating in benzene service, except when otherwise specified in 40 CFR Part 61, Subparts J and V.

E.5.2 NESHAP Requirements for 40 CFR Part 61, Subpart J [326 IAC 14]

Pursuant to 40 CFR 61.110(a), the Permittee shall comply with the provisions of 40 CFR Part 61, Subpart J, which are incorporated by reference as 326 IAC 14, for the emission units identified in Condition E.5.1, as specified below:

Subpart J—National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene

§61.110 Applicability and designation of sources.

(a) The provisions of this subpart apply to each of the following sources that are intended to operate in benzene service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart.

(c)(1) If an owner or operator applies for one of the exemptions in this paragraph, then the owner or operator shall maintain records as required in §61.246(i).

(2) Any equipment in benzene service that is located at a plant site designed to produce or use less than 1,000 megagrams (1,102 tons) of benzene per year is exempt from the requirements of §61.112.

(3) Any process unit (defined in §61.241) that has no equipment in benzene service is exempt from the requirements of §61.112.

(d) While the provisions of this subpart are effective, a source to which this subpart applies that is also subject to the provisions of 40 CFR part 60 only will be required to comply with the provisions of this subpart.

§61.112 Standards.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of subpart V of this part.

E.5.3 NESHAP Requirements for 40 CFR Part 61, Subpart V [326 IAC 14]

Pursuant to 40 CFR 61.112(a), the Permittee shall comply with the provisions of 40 CFR Part 61, Subpart V, which are incorporated by reference as 326 IAC 14, for the emission units identified in Condition E.5.1, as specified below:

Subpart V—National Emission Standard for Equipment Leaks (Fugitive Emission Sources)

§61.240 Applicability and designation of sources.

(a) The provisions of this subpart apply to each of the following sources that are intended to operate in volatile hazardous air pollutant (VHAP) service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart.

(b) The provisions of this subpart apply to the sources listed in paragraph (a) after the date of promulgation of a specific subpart in part 61.

(c) While the provisions of this subpart are effective, a source to which this subpart applies that is also subject to the provisions of 40 CFR part 60 only will be required to comply with the provisions of this subpart.

§61.242-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§61.242–1 to 61.242–11 for each new and existing source as required in 40 CFR 61.05, except as provided in §§61.243 and 61.244.

(b) Compliance with this subpart will be determined by review of records, review of performance test results, and inspection using the methods and procedures specified in §61.245.

(c)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§61.242–2, 61.242–3, 61.242–5, 61.242–6, 61.242–7, 61.242–8, 61.242–9 and 61.242–11 as provided in §61.244.

(2) If the Administrator makes a determination that a means of emission limitation is at least a permissible alternative to the requirements of §61.242–2, 61.242–3, 61.242–5, 61.242–6, 61.242–7, 61.242–8, 61.242–9 or 61.242–11, an owner or operator shall comply with the requirements of that determination.

(d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

§61.242-11 Standards: Closed-vent systems and control devices.

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in §61.242–1(c).

(c) Enclosed combustion devices shall be designed and operated to reduce the VHAP emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.

(d) Flares shall used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraph (f)(1) or (2) of this section, as applicable.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the following requirements:

(i) Conduct an initial inspection according to the procedures in §61.245(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe-to-inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section if they comply with the following requirements:

(1) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1)(i) or (2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult-to-inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section if they comply with the following requirements:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the following information:

(1) Identification of all parts of the closed vent system that are designated as unsafe-to-inspect, an explanation of why the equipment is unsafe-to-inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult-to-inspect, an explanation of why the equipment is difficult-to-inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §61.246(c).

(4) For each inspection conducted in accordance with §61.245(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§61.245 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required in §§61.242, 61.243, 61.244, and 61.135, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of appendix A of 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

(e)(1) Method 22 of appendix A of 40 CFR part 60 shall be used to determine compliance of flares with the visible emission provisions of this subpart.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm (BTU/scf); where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg (77 °F and 14.7 psi), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F).

K = conversion constant, 1.740×10^{7} (g-mole) (MJ)/(ppm-scm-kcal) (metric units); or 4.674×10^{8} ((g-mole) (Btu)/(ppm-scf-kcal)) (English units)

Ci = Concentration of sample component “i” in ppm, as measured by Method 18 of appendix A to 40 CFR part 60 and ASTM D2504–67, 77, or 88 (Reapproved 1993) (incorporated by reference as specified in §61.18).

H_i = net heat of combustion of sample component “i” at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §61.18) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Method 2, 2A, 2C, or 2D, as appropriate, by the unobstructed (free) cross section area of the flare tip.

(5) The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max} = K_1 + K_2 H_T$$

Where:

V_{max} = Maximum permitted velocity, m/sec (ft/sec).

H_T = Net heating value of the gas being combusted, as determined in paragraph (e)(3) of this section, MJ/scm (Btu/scf).

K_1 = 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K_2 = 0.7084 m^4 /(MJ-sec) (metric units)

= 0.087 ft^4 /(Btu-sec) (English units)

§61.246 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by each process unit.

(d) The following information pertaining to the design requirements for closed-vent systems and control devices described in §61.242–11 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §61.242–11(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed-vent systems and control devices required in §§61.242–2, 61.242–3, 61.242–4, 61.242–5 and 61.242–9 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed-vent systems and control devices required in §§61.242–2, 61.242–3, 61.242–4, 61.242–5 and 61.242–9.

(e) The following information pertaining to all equipment to which a standard applies shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

§61.247 Reporting requirements.

(a)(1) An owner or operator of any piece of equipment to which this subpart applies shall submit a statement in writing notifying the Administrator that the requirements of §§61.242, 61.245, 61.246, and 61.247 are being implemented.

(2) In the case of an existing source or a new source which has an initial startup date preceding the effective date, the statement is to be submitted within 90 days of the effective date, unless a waiver of

compliance is granted under §61.11, along with the information required under §61.10. If a waiver of compliance is granted, the statement is to be submitted on a date scheduled by the Administrator.

(3) In the case of new sources which did not have an initial startup date preceding December 14, 2000, the statement required under paragraph (a)(1) of this section shall be submitted with the application for approval of construction, as described in §61.07.

(4) For owners and operators complying with 40 CFR part 65, subpart C or F, the statement required under paragraph (a)(1) of this section shall notify the Administrator that the requirements of 40 CFR part 65, subpart C or F, are being implemented.

(5) The statement is to contain the following information for each source:

(i) Equipment identification number and process unit identification.

(ii) Type of equipment (for example, a pump or pipeline valve).

(iii) Percent by weight VHAP in the fluid at the equipment.

(iv) Process fluid state at the equipment (gas/vapor or liquid).

(v) Method of compliance with the standard (for example, “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(b) A report shall be submitted to the Administrator semiannually starting 6 months after the initial report required in paragraph (a) of this section, that includes the following information:

(1) Process unit identification.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (a) if changes have occurred since the initial report or subsequent revisions to the initial report.

Note: Compliance with the requirements of §61.10(c) is not required for revisions documented under this paragraph.

(c) In the first report submitted as required in paragraph (a) of this section, the report shall include a reporting schedule stating the months that semiannual reports shall be submitted. Subsequent reports shall be submitted according to that schedule, unless a revised schedule has been submitted in a previous semiannual report.

(e) An application for approval of construction or modification, §§61.05(a) and 61.07, will not be required if—

(1) The new source complies with the standard, §61.242;

(2) The new source is not part of the construction of a process unit; and

(3) In the next semiannual report required by paragraph (b) of this section, the information in paragraph (a)(5) of this section is reported.

SECTION E.6 40 CFR Part 60, Subpart QQQ - Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems

E.6.1 General Provisions Relating to NSPS Subpart QQQ [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the affected emission units at this source, except when otherwise specified in 40 CFR Part 60, Subpart QQQ.

E.6.2 NSPS Subpart QQQ Requirements [40 CFR Part 60, Subpart QQQ] [326 IAC 12]

Pursuant to 40 CFR 60.690(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart QQQ, which are incorporated by reference as 326 IAC 12, for the refinery wastewater systems as specified below:

Subpart QQQ—Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems

§60.690 Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction is commenced after May 4, 1987.

(2) An individual drain system is a separate affected facility.

(3) An oil-water separator is a separate affected facility.

(4) An aggregate facility is a separate affected facility.

(b) Notwithstanding the provisions of 40 CFR 60.14(e)(2), the construction or installation of a new individual drain system shall constitute a modification to an affected facility described in §60.690(a)(4). For purposes of this paragraph, a new individual drain system shall be limited to all process drains and the first common junction box.

§60.692-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of §§60.692–1 to 60.692–5 and with §§60.693–1 and 60.693–2, except during periods of startup, shutdown, or malfunction.

(b) Compliance with §§60.692–1 to 60.692–5 and with §§60.693–1 and 60.693–2 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.696.

(c) Permission to use alternative means of emission limitation to meet the requirements of §§60.692–2 through 60.692–4 may be granted as provided in §60.694.

(d)(1) Stormwater sewer systems are not subject to the requirements of this subpart.

(2) Ancillary equipment, which is physically separate from the wastewater system and does not come in contact with or store oily wastewater, is not subject to the requirements of this subpart.

(3) Non-contact cooling water systems are not subject to the requirements of this subpart.

(4) An owner or operator shall demonstrate compliance with the exclusions in paragraphs (d)(1), (2), and (3) of this section as provided in §60.697 (h), (i), and (j).

§60.692-2 Standards: Individual drain systems.

(a)(1) Each drain shall be equipped with water seal controls.

(2) Each drain in active service shall be checked by visual or physical inspection initially and monthly thereafter for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls.

(3) Except as provided in paragraph (a)(4) of this section, each drain out of active service shall be checked by visual or physical inspection initially and weekly thereafter for indications of low water levels or other problems that could result in VOC emissions.

(4) As an alternative to the requirements in paragraph (a)(3) of this section, if an owner or operator elects to install a tightly sealed cap or plug over a drain that is out of service, inspections shall be conducted initially and semiannually to ensure caps or plugs are in place and properly installed.

(5) Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, except as provided in §60.692–6.

(b)(1) Junction boxes shall be equipped with a cover and may have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter.

(2) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance.

(3) Junction boxes shall be visually inspected initially and semiannually thereafter to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge.

(4) If a broken seal or gap is identified, first effort at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, except as provided in §60.692–6.

(c)(1) Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

(2) The portion of each unburied sewer line shall be visually inspected initially and semiannually thereafter for indication of cracks, gaps, or other problems that could result in VOC emissions.

(3) Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except as provided in §60.692–6.

(d) Except as provided in paragraph (e) of this section, each modified or reconstructed individual drain system that has a catch basin in the existing configuration prior to May 4, 1987 shall be exempt from the provisions of this section.

(e) Refinery wastewater routed through new process drains and a new first common downstream junction box, either as part of a new individual drain system or an existing individual drain system, shall not be routed through a downstream catch basin.

§60.692-3 Standards: Oil-water separators.

(a) Each oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of this subpart shall be equipped and operated with a fixed roof, which meets the following specifications, except as provided in paragraph (d) of this section or in §60.693–2.

(1) The fixed roof shall be installed to completely cover the separator tank, slop oil tank, storage vessel, or other auxiliary equipment with no separation between the roof and the wall.

(2) The vapor space under a fixed roof shall not be purged unless the vapor is directed to a control device.

(3) If the roof has access doors or openings, such doors or openings shall be gasketed, latched, and kept closed at all times during operation of the separator system, except during inspection and maintenance.

(4) Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps occur between the roof and wall and that access doors and other openings are closed and gasketed properly.

(5) When a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after it is identified, except as provided in §60.692–6.

(b) Each oil-water separator tank or auxiliary equipment with a design capacity to treat more than 16 liters per second (250 gallons per minute (gpm)) of refinery wastewater shall, in addition to the requirements in paragraph (a) of this section, be equipped and operated with a closed vent system and control device, which meet the requirements of §60.692–5, except as provided in paragraph (c) of this section or in §60.693–2.

(c)(1) Each modified or reconstructed oil-water separator tank with a maximum design capacity to treat less than 38 liters per second (600 gpm) of refinery wastewater which was equipped and operated with a fixed roof covering the entire separator tank or a portion of the separator tank prior to May 4, 1987 shall be exempt from the requirements of paragraph (b) of this section, but shall meet the requirements of paragraph (a) of this section, or may elect to comply with paragraph (c)(2) of this section.

(2) The owner or operator may elect to comply with the requirements of paragraph (a) of this section for the existing fixed roof covering a portion of the separator tank and comply with the requirements for floating roofs in §60.693–2 for the remainder of the separator tank.

(d) Storage vessels, including slop oil tanks and other auxiliary tanks that are subject to the standards in §§60.112, 60.112a, and 60.112b and associated requirements, 40 CFR part 60, subparts K, Ka, or Kb are not subject to the requirements of this section.

(e) Slop oil from an oil-water separator tank and oily wastewater from slop oil handling equipment shall be collected, stored, transported, recycled, reused, or disposed of in an enclosed system. Once slop oil is returned to the process unit or is disposed of, it is no longer within the scope of this subpart. Equipment used in handling slop oil shall be equipped with a fixed roof meeting the requirements of paragraph (a) of this section.

(f) Each oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment that is required to comply with paragraph (a) of this section, and not paragraph (b) of this section, may be equipped with a pressure control valve as necessary for proper system operation. The pressure control valve shall be set at the maximum pressure necessary for proper system operation, but such that the value will not vent continuously.

§60.692-4 Standards: Aggregate facility.

A new, modified, or reconstructed aggregate facility shall comply with the requirements of §§60.692–2 and 60.692–3.

§60.692-5 Standards: Closed vent systems and control devices.

(b) Vapor recovery systems (for example, condensers and adsorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater.

(d) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(e)(1) Closed vent systems shall be designed and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined during the initial and semiannual inspections by the methods specified in §60.696.

(2) Closed vent systems shall be purged to direct vapor to the control device.

(3) A flow indicator shall be installed on a vent stream to a control device to ensure that the vapors are being routed to the device.

(4) All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(5) When emissions from a closed system are detected, first efforts at repair to eliminate the emissions shall be made as soon as practicable, but not later than 30 calendar days from the date the emissions are detected, except as provided in §60.692–6.

§60.692-6 Standards: Delay of repair.

(a) Delay of repair of facilities that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown.

(b) Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.

§60.692-7 Standards: Delay of compliance.

(a) Delay of compliance of modified individual drain systems with ancillary downstream treatment components will be allowed if compliance with the provisions of this subpart cannot be achieved without a refinery or process unit shutdown.

(b) Installation of equipment necessary to comply with the provisions of this subpart shall occur no later than the next scheduled refinery or process unit shutdown.

§60.693-2 Alternative standards for oil-water separators.

(a) An owner or operator may elect to construct and operate a floating roof on an oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of this subpart which meets the following specifications.

(1) Each floating roof shall be equipped with a closure device between the wall of the separator and the roof edge. The closure device is to consist of a primary seal and a secondary seal.

(i) The primary seal shall be a liquid-mounted seal or a mechanical shoe seal.

(A) A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the separator and the floating roof. A mechanical shoe seal means a metal sheet held vertically against the wall of the separator by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(B) The gap width between the primary seal and the separator wall shall not exceed 3.8 cm (1.5 in.) at any point.

(C) The total gap area between the primary seal and the separator wall shall not exceed 67 cm^2/m (3.2 $in.^2$/ft) of separator wall perimeter.

(ii) The secondary seal shall be above the primary seal and cover the annular space between the floating roof and the wall of the separator.

(A) The gap width between the secondary seal and the separator wall shall not exceed 1.3 cm (0.5 in.) at any point.

(B) The total gap area between the secondary seal and the separator wall shall not exceed 6.7 cm^2/m (0.32 $in.^2$/ft) of separator wall perimeter.

(iii) The maximum gap width and total gap area shall be determined by the methods and procedures specified in §60.696(d).

(A) Measurement of primary seal gaps shall be performed within 60 calendar days after initial installation of the floating roof and introduction of refinery wastewater and once every 5 years thereafter.

(B) Measurement of secondary seal gaps shall be performed within 60 calendar days of initial introduction of refinery wastewater and once every year thereafter.

(iv) The owner or operator shall make necessary repairs within 30 calendar days of identification of seals not meeting the requirements listed in paragraphs (a)(1) (i) and (ii) of this section.

(2) Except as provided in paragraph (a)(4) of this section, each opening in the roof shall be equipped with a gasketed cover, seal, or lid, which shall be maintained in a closed position at all times, except during inspection and maintenance.

(3) The roof shall be floating on the liquid (i.e., off the roof supports) at all times except during abnormal conditions (i.e., low flow rate).

(4) The floating roof may be equipped with one or more emergency roof drains for removal of stormwater. Each emergency roof drain shall be fitted with a slotted membrane fabric cover that covers at least 90 percent of the drain opening area or a flexible fabric sleeve seal.

(5)(i) Access doors and other openings shall be visually inspected initially and semiannually thereafter to ensure that there is a tight fit around the edges and to identify other problems that could result in VOC emissions.

(ii) When a broken seal or gasket on an access door or other opening is identified, it shall be repaired as soon as practicable, but not later than 30 calendar days after it is identified, except as provided in §60.692–6.

(b) An owner or operator must notify the Administrator in the report required by 40 CFR 60.7 that the owner or operator has elected to construct and operate a floating roof under paragraph (a) of this section.

(c) For portions of the oil-water separator tank where it is infeasible to construct and operate a floating roof, such as the skimmer mechanism and weirs, a fixed roof meeting the requirements of §60.692–3(a) shall be installed.

(d) Except as provided in paragraph (c) of this section, if an owner or operator elects to comply with the provisions of this section, then the owner or operator does not need to comply with the provisions of §§60.692–3 or 60.694 applicable to the same facilities.

§60.695 Monitoring of operations.

(a) Each owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator.

(3) Where a carbon adsorber is used for VOC emissions reduction, a monitoring device that continuously indicates and records the VOC concentration level or reading of organics in the exhaust gases of the control device outlet gas stream or inlet and outlet gas stream shall be used.

(ii) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device (e.g., a carbon canister), the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system.

§60.696 Performance test methods and procedures and compliance provisions.

(a) Before using any equipment installed in compliance with the requirements of §60.692–2, §60.692–3, §60.692–4, §60.692–5, or §60.693, the owner or operator shall inspect such equipment for indications of potential emissions, defects, or other problems that may cause the requirements of this subpart not to be met. Points of inspection shall include, but are not limited to, seals, flanges, joints, gaskets, hatches, caps, and plugs.

(b) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.692–5 (other than a flare) is exempt from §60.8 of the General Provisions and shall use Method 21 to measure the emission concentrations, using 500 ppm as the no detectable emission limit. The instrument shall be calibrated each day before using. The calibration gases shall be:

(1) Zero air (less than 10 ppm of hydrocarbon in air), and

(2) A mixture of either methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(d) After installing the control equipment required to meet §60.693–2(a) or whenever sources that have ceased to treat refinery wastewater for a period of 1 year or more are placed back into service, the owner or operator shall determine compliance with the standards in §60.693–2(a) as follows:

(1) The maximum gap widths and maximum gap areas between the primary seal and the separator wall and between the secondary seal and the separator wall shall be determined individually within 60 calendar days of the initial installation of the floating roof and introduction of refinery wastewater or 60 calendar days after the equipment is placed back into service using the following procedure when the separator is filled to the design operating level and when the roof is floating off the roof supports.

(i) Measure seal gaps around the entire perimeter of the separator in each place where a 0.32 cm (0.125 in.) diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the separator and measure the gap width and parametrical distance of each such location.

(ii) The total surface area of each gap described in (d)(1)(i) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the wall to the seal and multiplying each such width by its respective perimetrical distance.

(iii) Add the gap surface area of each gap location for the primary seal and the secondary seal individually, divide the sum for each seal by the nominal perimeter of the separator basin and compare each to the maximum gap area as specified in §60.693–2.

(2) The gap widths and total gap area shall be determined using the procedure in paragraph (d)(1) of this section according to the following frequency:

(i) For primary seals, once every 5 years.

(ii) For secondary seals, once every year.

§60.697 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section. All records shall be retained for a period of 2 years after being recorded unless otherwise noted.

(b)(1) For individual drain systems subject to §60.692–2, the location, date, and corrective action shall be recorded for each drain when the water seal is dry or otherwise breached, when a drain cap or plug is missing or improperly installed, or other problem is identified that could result in VOC emissions, as determined during the initial and periodic visual or physical inspection.

(2) For junction boxes subject to §60.692–2, the location, date, and corrective action shall be recorded for inspections required by §60.692–2(b) when a broken seal, gap, or other problem is identified that could result in VOC emissions.

(3) For sewer lines subject to §§60.692–2 and 60.693–1(e), the location, date, and corrective action shall be recorded for inspections required by §§60.692–2(c) and 60.693–1(e) when a problem is identified that could result in VOC emissions.

(c) For oil-water separators subject to §60.692–3, the location, date, and corrective action shall be recorded for inspections required by §60.692–3(a) when a problem is identified that could result in VOC emissions.

(d) For closed vent systems subject to §60.692–5 and completely closed drain systems subject to §60.693–1, the location, date, and corrective action shall be recorded for inspections required by §60.692–5(e) during which detectable emissions are measured or a problem is identified that could result in VOC emissions.

(e)(1) If an emission point cannot be repaired or corrected without a process unit shutdown, the expected date of a successful repair shall be recorded.

(2) The reason for the delay as specified in §60.692–6 shall be recorded if an emission point or equipment problem is not repaired or corrected in the specified amount of time.

(3) The signature of the owner or operator (or designee) whose decision it was that repair could not be effected without refinery or process shutdown shall be recorded.

(4) The date of successful repair or corrective action shall be recorded.

(f)(1) A copy of the design specifications for all equipment used to comply with the provisions of this subpart shall be kept for the life of the source in a readily accessible location.

(2) The following information pertaining to the design specifications shall be kept.

(i) Detailed schematics, and piping and instrumentation diagrams.

(ii) The dates and descriptions of any changes in the design specifications.

(3) The following information pertaining to the operation and maintenance of closed drain systems and closed vent systems shall be kept in a readily accessible location.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions shall be kept for the life of the facility. This documentation is to include a general description of the gas streams that enter the control device, including flow and volatile organic

compound content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C (1,500 °F) is used to meet the 95-percent requirement, documentation that those conditions exist is sufficient to meet the requirements of this paragraph.

(ii) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iii) Periods when the closed vent systems and control devices required in §60.692 are not operated as designed, including periods when a flare pilot does not have a flame shall be recorded and kept for 2 years after the information is recorded.

(iv) Dates of startup and shutdown of the closed vent system and control devices required in §60.692 shall be recorded and kept for 2 years after the information is recorded.

(v) The dates of each measurement of detectable emissions required in §§60.692, 60.693, or 60.692–5 shall be recorded and kept for 2 years after the information is recorded.

(vi) The background level measured during each detectable emissions measurement shall be recorded and kept for 2 years after the information is recorded.

(vii) The maximum instrument reading measured during each detectable emission measurement shall be recorded and kept for 2 years after the information is recorded.

(x) Each owner or operator of an affected facility that uses a carbon adsorber shall maintain continuous records of the VOC concentration level or reading of organics of the control device outlet gas stream or inlet and outlet gas stream and records of all 3-hour periods of operation during which the average VOC concentration level or reading of organics in the exhaust gases, or inlet and outlet gas stream, is more than 20 percent greater than the design exhaust gas concentration level, and shall keep such records for 2 years after the information is recorded.

(B) If a carbon adsorber that is not regenerated directly onsite in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time that the existing carbon in the control device is replaced with fresh carbon.

(g) If an owner or operator elects to install a tightly sealed cap or plug over a drain that is out of active service, the owner or operator shall keep for the life of a facility in a readily accessible location, plans or specifications which indicate the location of such drains.

(h) For stormwater sewer systems subject to the exclusion in §60.692–1(d)(1), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications which demonstrate that no wastewater from any process units or equipment is directly discharged to the stormwater sewer system.

(i) For ancillary equipment subject to the exclusion in §60.692–1(d)(2), an owner or operator shall keep for the life of a facility in a readily accessible location, plans or specifications which demonstrate that the ancillary equipment does not come in contact with or store oily wastewater.

(j) For non-contact cooling water systems subject to the exclusion in §60.692–1(d)(3), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications which

demonstrate that the cooling water does not contact hydrocarbons or oily wastewater and is not recirculated through a cooling tower.

(k) For oil-water separators subject to §60.693–2, the location, date, and corrective action shall be recorded for inspections required by §§60.693–2(a)(1)(iii)(A) and (B), and shall be maintained for the time period specified in paragraphs (k)(1) and (2) of this section.

(1) For inspections required by §60.693-2(a)(1)(iii)(A), ten years after the information is recorded.

(2) For inspections required by §60.693–2(a)(1)(iii)(B), two years after the information is recorded.

§60.698 Reporting requirements.

(a) An owner or operator electing to comply with the provisions of §60.693 shall notify the Administrator of the alternative standard selected in the report required in §60.7.

(b)(1) Each owner or operator of a facility subject to this subpart shall submit to the Administrator within 60 days after initial startup a certification that the equipment necessary to comply with these standards has been installed and that the required initial inspections or tests of process drains, sewer lines, junction boxes, oil-water separators, and closed vent systems and control devices have been carried out in accordance with these standards. Thereafter, the owner or operator shall submit to the Administrator semiannually a certification that all of the required inspections have been carried out in accordance with these standards.

(2) Each owner or operator of an affected facility that uses a flare shall submit to the Administrator within 60 days after initial startup, as required under §60.8(a), a report of the results of the performance test required in §60.696(c).

(c) A report that summarizes all inspections when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken, shall be submitted initially and semiannually thereafter to the Administrator.

(d) As applicable, a report shall be submitted semiannually to the Administrator that indicates:

(3) Each 3-hour period of operation during which the average VOC concentration level or reading of organics in the exhaust gases from a carbon adsorber is more than 20 percent greater than the design exhaust gas concentration level or reading.

(ii) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly onsite in the control device is not replaced at the predetermined interval specified in §60.695(a)(3)(ii).

(e) If compliance with the provisions of this subpart is delayed pursuant to §60.692–7, the notification required under 40 CFR 60.7(a)(4) shall include the estimated date of the next scheduled refinery or process unit shutdown after the date of notification and the reason why compliance with the standards is technically impossible without a refinery or process unit shutdown.

SECTION E.7 40 CFR Part 60, Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquid for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978

E.7.1 General Provisions Relating to NSPS Subpart K [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for storage tanks 3534, 3537, 3601, and 3605, except when otherwise specified in 40 CFR Part 60, Subpart K.

E.7.2 NSPS Requirements [40 CFR Part 60, Subpart K] [326 IAC 12]

Pursuant to 40 CFR 60.110(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart K, which are incorporated by reference as 326 IAC 12, for the storage tanks listed in Condition E.7.1, as specified below:

Subpart K—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978

§60.110 Applicability and designation of affected facility.

(a) Except as provided in §60.110(b), the affected facility to which this subpart applies is each storage vessel for petroleum liquids which has a storage capacity greater than 151,412 liters (40,000 gallons).

(c) Subject to the requirements of this subpart is any facility under paragraph (a) of this section which:

(1) Has a capacity greater than 151, 416 liters (40,000 gallons), but not exceeding 246,052 liters (65,000 gallons), and commences construction or modification after March 8, 1974, and prior to May 19, 1978.

(2) Has a capacity greater than 246,052 liters (65,000 gallons) and commences construction or modification after June 11, 1973, and prior to May 19, 1978.

§60.112 Standard for volatile organic compounds (VOC).

(a) The owner or operator of any storage vessel to which this subpart applies shall store petroleum liquids as follows:

(1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents.

(2) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.

§60.113 Monitoring of operations.

(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.

(b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be

determined from available data and recorded if the estimated true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each affected facility which stores petroleum liquids with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) Each owner or operator of each affected facility equipped with a vapor recovery and return or disposal system in accordance with the requirements of §60.112.

SECTION E.8 40 CFR Part 60, Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquid for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

E.8.1 General Provisions Relating to NSPS Subpart Ka [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for storage tanks 3480, 3487, 3525, 3526, 3553, 3554, 3602, 3604, 3704, 3915, 3916, 3917, 3918, 3919, and 3920, except when otherwise specified in 40 CFR Part 60, Subpart Ka.

E.8.2 NSPS Requirements [40 CFR Part 60, Subpart Ka] [326 IAC 12]

Pursuant to 40 CFR 60.110(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Ka, which are incorporated by reference as 326 IAC 12, for the storage tanks listed in Condition E.8.1, as specified in this condition. Storage tanks 3602 and 3604 shall comply only with the record keeping requirements in 40 CFR 60.115a(a).

Subpart Ka—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

§60.110a Applicability and designation of affected facility.

(a) Affected facility. Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a storage capacity greater than 151,416 liters (40,000 gallons) that is used to store petroleum liquids for which construction is commenced after May 18, 1978.

(b) Each petroleum liquid storage vessel with a capacity of less than 1,589,873 liters (420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer is not an affected facility and, therefore, is exempt from the requirements of this subpart.

§60.112a Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel to which this subpart applies which contains a petroleum liquid which, as stored, has a true vapor pressure equal to or greater than 10.3 kPa (1.5 psia) but not greater than 76.6 kPa (11.1 psia) shall equip the storage vessel with one of the following:

(1) An external floating roof, consisting of a pontoon-type or double-deck-type cover that rests on the surface of the liquid contents and is equipped with a closure device between the tank wall and the roof edge. Except as provided in paragraph (a)(1)(ii)(D) of this section, the closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal. The roof is to be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill and when the tank is completely emptied and subsequently refilled. The process of emptying and refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(i) The primary seal is to be either a metallic shoe seal, a liquid-mounted seal, or a vapor-mounted seal. Each seal is to meet the following requirements:

(A) The accumulated area of gaps between the tank wall and the metallic shoe seal or the liquid-mounted seal shall not exceed 212 cm^2 per meter of tank diameter (10.0 in^2 per ft of tank diameter) and the width of any portion of any gap shall not exceed 3.81 cm (1 1/2 in).

(B) The accumulated area of gaps between the tank wall and the vapor-mounted seal shall not exceed 21.2 cm^2 per meter of tank diameter (1.0 in^2 per ft of tank diameter) and the width of any portion of any gap shall not exceed 1.27 cm (1/2 in).

(C) One end of the metallic shoe is to extend into the stored liquid and the other end is to extend a minimum vertical distance of 61 cm (24 in) above the stored liquid surface.

(D) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (a)(1)(ii)(B) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal used in combination with a metallic shoe or liquid-mounted primary seal shall not exceed 21.2 cm^2 per meter of tank diameter (1.0 in^2 per ft. of tank diameter) and the width of any portion of any gap shall not exceed 1.27 cm (1/2 in.). There shall be no gaps between the tank wall and the secondary seal used in combination with a vapor-mounted primary seal.

(C) There are to be no holes, tears or other openings in the seal or seal fabric.

(D) The owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.

(iii) Each opening in the roof except for automatic bleeder vents and rim space vents is to provide a projection below the liquid surface. Each opening in the roof except for automatic bleeder vents, rim space vents and leg sleeves is to be equipped with a cover, seal or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use or as described in paragraph (a)(1)(iv) of this section. Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting.

(iv) Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(2) A fixed roof with an internal floating type cover equipped with a continuous closure device between the tank wall and the cover edge. The cover is to be floating at all times, (i.e., off the leg supports) except during initial fill and when the tank is completely emptied and subsequently refilled. The process of emptying and refilling when the cover is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible. Each opening in the cover except for automatic bleeder vents and the rim space vents is to provide a projection below the liquid surface. Each opening in the cover except for automatic bleeder vents, rim space vents, stub drains and leg sleeves is to be equipped with a cover, seal, or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the cover is floating except when the cover is being floated off or is being landed on the leg supports. Rim vents are to be set to open only when the cover is being floated off the leg supports or at the manufacturer's recommended setting.

§60.113a Testing and procedures.

(a) Except as provided in §60.8(b) compliance with the standard prescribed in §60.112a shall be determined as follows or in accordance with an equivalent procedure as provided in §60.114a.

(1) The owner or operator of each storage vessel to which this subpart applies which has an external floating roof shall meet the following requirements:

(i) Determine the gap areas and maximum gap widths between the primary seal and the tank wall and between the secondary seal and the tank wall according to the following frequency:

(A) For primary seals, gap measurements shall be performed within 60 days of the initial fill with petroleum liquid and at least once every five years thereafter. All primary seal inspections or gap measurements which require the removal or dislodging of the secondary seal shall be accomplished as rapidly as possible and the secondary seal shall be replaced as soon as possible.

(B) For secondary seals, gap measurements shall be performed within 60 days of the initial fill with petroleum liquid and at least once every year thereafter.

(C) If any storage vessel is out of service for a period of one year or more, subsequent refilling with petroleum liquid shall be considered initial fill for the purposes of paragraphs (a)(1)(i)(A) and (a)(1)(i)(B) of this section.

(D) Keep records of each gap measurement at the plant for a period of at least 2 years following the date of measurement. Each record shall identify the vessel on which the measurement was performed and shall contain the date of the seal gap measurement, the raw data obtained in the measurement process required by paragraph (a)(1)(ii) of this section and the calculation required by paragraph (a)(1)(iii) of this section.

(E) If either the seal gap calculated in accord with paragraph (a)(1)(iii) of this section or the measured maximum seal gap exceeds the limitations specified by §60.112a of this subpart, a report shall be furnished to the Administrator within 60 days of the date of measurements. The report shall identify the vessel and list each reason why the vessel did not meet the specifications of §60.112a. The report shall also describe the actions necessary to bring the storage vessel into compliance with the specifications of §60.112a.

(ii) Determine gap widths in the primary and secondary seals individually by the following procedures:

(A) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(B) Measure seal gaps around the entire circumference of the tank in each place where a 1/8&inch; diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the tank wall and measure the circumferential distance of each such location.

(C) The total surface area of each gap described in paragraph (a)(1)(ii)(B) of this section shall be determined by using probes of various widths to accurately measure the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(iii) Add the gap surface area of each gap location for the primary seal and the secondary seal individually. Divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the appropriate ratio in the standard in §60.112a(a)(1)(i) and §60.112a(a)(1)(ii).

(iv) Provide the Administrator 30 days prior notice of the gap measurement to afford the Administrator the opportunity to have an observer present.

§60.115a Monitoring of operations.

(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.

(b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be determined from available data and recorded if the estimated true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

SECTION E.9 40 CFR Part 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

E.9.1 General Provisions Relating to NSPS Subpart Kb [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for storage tanks 3474, 3475, 3476, 3484, 3488, 3489, 3493, 3514, 3527, 3528, 3531, 3549, 3558, 3600, 3622, 3629, 3701, 3702, 3715, 3716, 3860, 3900, 3904, 3907, and 3911, except when otherwise specified in 40 CFR Part 60, Subpart Kb.

E.9.2 NSPS Requirements [40 CFR Part 60, Subpart Kb] [326 IAC 12]

Pursuant to 40 CFR 60.110(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Kb, which are incorporated by reference as 326 IAC 12, for the storage tanks listed in Condition E.9.1, as specified below:

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

§60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(d) This subpart does not apply to the following:

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.

§60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports,

the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

§60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified

in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

§60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with §61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(2) and §60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by §60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by §60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by §60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

§60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true

vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

SECTION E.10 40 CFR Part 63, Subpart UUU – National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

E.10.1 General Provisions Relating to NESHAP Subpart UUU [40 CFR Part 63, Subpart Y] [326 IAC 20-1]

Pursuant to 40 CFR Part 63.1577, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, as specified in Table 44 of 40 CFR Part 63, Subpart UUU in accordance with the schedule in 40 CFR Part 63, Subpart UUU.

E.10.2 NESHAP Subpart UUU Requirements [40 CFR Part 63, Subpart UUU] [326 IAC 20-50-1]

Pursuant to 40 CFR 63.1561, the Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart UUU, which are incorporated by reference as 326 IAC 20-50-1 for the Sodium Bisulfite and Beavon – Stretford Tail Gas Units (Section D.4), 3UF Catalyst regenerator (Section D.15), 4UF catalyst regenerator and bypass line (Section D.16), FCU 500 catalyst regenerator (Section D.21), and FCU 600 catalyst regenerator (Section D.22).

Subpart UUU—National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

§63.1562 What parts of my plant are covered by this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source at a petroleum refinery.

(b) The affected sources are:

(1) The process vent or group of process vents on fluidized catalytic cracking units that are associated with regeneration of the catalyst used in the unit (i.e., the catalyst regeneration flue gas vent).

(2) The process vent or group of process vents on catalytic reforming units (including but not limited to semi-regenerative, cyclic, or continuous processes) that are associated with regeneration of the catalyst used in the unit. This affected source includes vents that are used during the unit depressurization, purging, coke burn, and catalyst rejuvenation.

(3) The process vent or group of process vents on Claus or other types of sulfur recovery plant units or the tail gas treatment units serving sulfur recovery plants, that are associated with sulfur recovery.

(4) Each bypass line serving a new, existing, or reconstructed catalytic cracking unit, catalytic reforming unit, or sulfur recovery unit. This means each vent system that contains a bypass line (e.g., ductwork) that could divert an affected vent stream away from a control device used to comply with the requirements of this subpart.

(d) Any affected source is reconstructed if you meet the criteria in §63.2.

(e) An affected source is existing if it is not new or reconstructed.

(f) This subpart does not apply to:

(1) A thermal catalytic cracking unit.

(2) A sulfur recovery unit that does not recover elemental sulfur or where the modified reaction is carried out in a water solution which contains a metal ion capable of oxidizing the sulfide ion to sulfur (e.g., the LO-CAT II process).

(3) A redundant sulfur recovery unit not located at a petroleum refinery and used by the refinery only for emergency or maintenance backup.

(4) Equipment associated with bypass lines such as low leg drains, high point bleed, analyzer vents, open-ended valves or lines, or pressure relief valves needed for safety reasons.

(5) Gaseous streams routed to a fuel gas system.

[67 FR 17773, Apr. 11, 2002, as amended at 70 FR 6938, Feb. 9, 2005]

§63.1563 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to the requirements in paragraphs (a)(1) and (2) of this section.

(1) If you startup your affected source before April 11, 2002, then you must comply with the emission limitations and work practice standards for new and reconstructed sources in this subpart no later than April 11, 2002.

(2) If you startup your affected source after April 11, 2002, you must comply with the emission limitations and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the emission limitations and work practice standards for existing affected sources in this subpart by no later than April 11, 2005 except as specified in paragraph (c) of this section.

(e) You must meet the notification requirements in §63.1574 according to the schedule in §63.1574 and in 40 CFR part 63, subpart A. Some of the notifications must be submitted before the date you are required to comply with the emission limitations and work practice standards in this subpart.

Catalytic Cracking Units, Catalytic Reforming Units, Sulfur Recovery Units, and Bypass Lines

§63.1564 What are my requirements for metal HAP emissions from catalytic cracking units?

(a) What emission limitations and work practice standards must I meet? You must:

(1) Meet each emission limitation in Table 1 of this subpart that applies to you. If your catalytic cracking unit is subject to the NSPS for PM in §60.102 of this chapter, you must meet the emission limitations for NSPS units. If your catalytic cracking unit isn't subject to the NSPS for PM, you can choose from the four options in paragraphs (a)(1)(i) through (iv) of this section:

(i) You can elect to comply with the NSPS requirements (Option 1);

(2) Comply with each operating limit in Table 2 of this subpart that applies to you.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan.

(4) The emission limitations and operating limits for metal HAP emissions from catalytic cracking units required in paragraphs (a)(1) and (2) of this section do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in §63.1575(j).

(b) How do I demonstrate initial compliance with the emission limitations and work practice standard? You must:

(1) Install, operate, and maintain a continuous monitoring system(s) according to the requirements in §63.1572 and Table 3 of this subpart.

(2) Conduct a performance test for each catalytic cracking unit not subject to the NSPS for PM according to the requirements in §63.1571 and under the conditions specified in Table 4 of this subpart.

(4) Use the procedures in paragraphs (b)(4)(i) through (iv) of this section to determine initial compliance with the emission limitations.

(i) If you elect Option 1 in paragraph (a)(1)(i) of this section, the NSPS requirements, compute the PM emission rate (lb/1,000 lbs of coke burn-off) for each run using Equations 1, 2, and 3 (if applicable) of this section as follows:

$$R_c = K_1 Q_r (\%CO_2 + \%CO) + K_2 Q_a - K_3 Q_r [(\%CO/2) + \%CO_2 + \%O_2] + K_3 Q_{oxy} (\%O_{xy}) \qquad \text{(Eq. 1)}$$

Where:

R_c = Coke burn-off rate, kg/hr (lb/hr);

Q_r = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams. Example: You may measure upstream or downstream of an electrostatic precipitator, but you must measure upstream of a carbon monoxide boiler, dscm/min (dscf/min). You may use the alternative in either §63.1573(a)(1) or (a)(2), as applicable, to calculate Q_r;

Q_a = Volumetric flow rate of air to catalytic cracking unit catalyst regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min);

$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);

%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);

$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);

K_1 = Material balance and conversion factor, 0.2982 (kg-min)/(hr-dscm-%) (0.0186 (lb-min)/(hr-dscf-%));

K_2 = Material balance and conversion factor, 2.088 (kg-min)/(hr-dscm) (0.1303 (lb-min)/(hr-dscf));

K_3 = Material balance and conversion factor, 0.0994 (kg-min)/(hr-dscm-%) (0.0062 (lb-min)/(hr-dscf-%));

Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min); and

$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis).

$$E = \frac{K \times C_s \times Q_{sd}}{R_c} \qquad \text{(Eq. 2)}$$

Where:

E = Emission rate of PM, kg/1,000 kg (lb/1,000 lb) of coke burn-off;

C_s = Concentration of PM, g/dscm (lb/dscf);

Q_{sd} = Volumetric flow rate of the catalytic cracking unit catalyst regenerator flue gas as measured by Method 2 in appendix A to part 60 of this chapter, dscm/hr (dscf/hr);

R_c = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr); and

K = Conversion factor, 1.0 (kg^2/g)/(1,000 kg) (1,000 lb/(1,000 lb)).

$$E_s = 1.0 + A(H/R_c)K' \qquad \text{(Eq. 3)}$$

Where:

E_s = Emission rate of PM allowed, kg/1,000 kg (1b/1,000 lb) of coke burn-off in catalyst regenerator;

1.0 = Emission limitation, kg coke/1,000 kg (lb coke/1,000 lb);

A = Allowable incremental rate of PM emissions, 0.18 g/million cal (0.10 lb/million Btu); and

H = Heat input rate from solid or liquid fossil fuel, million cal/hr (million Btu/hr). Make sure your permitting authority approves procedures for determining the heat input rate.

R_c = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr) determined using Equation 1 of this section; and

K′ = Conversion factor to units to standard, 1.0 (kg^2/g)/(1,000 kg) (10^3 lb/(1,000 lb)).

(5) Demonstrate initial compliance with each emission limitation that applies to you according to Table 5 of this subpart.

(6) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting your operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.

(7) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.1574.

(c) How do I demonstrate continuous compliance with the emission limitations and work practice standards? You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 1 and 2 of this subpart that applies to you according to the methods specified in Tables 6 and 7 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by maintaining records to document conformance with the procedures in your operation, maintenance, and monitoring plan.

§63.1565 What are my requirements for organic HAP emissions from catalytic cracking units?

(a) What emission limitations and work practice standards must I meet? You must:

(1) Meet each emission limitation in Table 8 of this subpart that applies to you. If your catalytic cracking unit is subject to the NSPS for carbon monoxide (CO) in §60.103 of this chapter, you must meet the emission limitations for NSPS units. If your catalytic cracking unit isn't subject to the NSPS for CO, you can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

(ii) You can elect to comply with the CO emission limit (Option 2).

(2) Comply with each site-specific operating limit in Table 9 of this subpart that applies to you.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan.

(4) The emission limitations and operating limits for organic HAP emissions from catalytic cracking units required in paragraphs (a)(1) and (2) of this section do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in §63.1575(j).

(b) How do I demonstrate initial compliance with the emission limitations and work practice standards? You must:

(1) Install, operate, and maintain a continuous monitoring system according to the requirements in §63.1572 and Table 10 of this subpart. Except:

(2) Conduct each performance test for a catalytic cracking unit not subject to the NSPS for CO according to the requirements in §63.1571 and under the conditions specified in Table 11 of this subpart.

(4) Demonstrate initial compliance with each emission limitation that applies to you according to Table 12 of this subpart.

(5) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status according to §63.1574.

(6) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.1574.

(c) How do I demonstrate continuous compliance with the emission limitations and work practice standards? You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 8 and 9 of this subpart that applies to you according to the methods specified in Tables 13 and 14 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

§63.1566 What are my requirements for organic HAP emissions from catalytic reforming units?

(a) What emission limitations and work practice standards must I meet? You must:

(1) Meet each emission limitation in Table 15 of this subpart that applies to you. You can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to vent emissions of total organic compounds (TOC) to a flare that meets the control device requirements in §63.11(b) (Option 1); or

(2) Comply with each site-specific operating limit in Table 16 of this subpart that applies to you.

(3) Except as provided in paragraph (a)(4) of this section, the emission limitations in Tables 15 and 16 of this subpart apply to emissions from catalytic reforming unit process vents associated with initial catalyst depressuring and catalyst purging operations that occur prior to the coke burn-off cycle. The emission limitations in Tables 15 and 16 of this subpart do not apply to the coke burn-off, catalyst rejuvenation, reduction or activation vents, or to the control systems used for these vents.

(4) The emission limitations in Tables 15 and 16 of this subpart do not apply to emissions from process vents during depressuring and purging operations when the reactor vent pressure is 5 pounds per square inch gauge (psig) or less.

(5) Prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan.

(b) How do I demonstrate initial compliance with the emission limitations and work practice standard? You must:

(1) Install, operate, and maintain a continuous monitoring system(s) according to the requirements in §63.1572 and Table 17 of this subpart.

(2) Conduct each performance test for a catalytic reforming unit according to the requirements in §63.1571 and under the conditions specified in Table 18 of this subpart.

(3) Establish each site-specific operating limit in Table 16 of this subpart that applies to you according to the procedures in Table 18 of this subpart.

(5) You are not required to do a TOC performance test if:

(i) You elect to vent emissions to a flare as provided in paragraph (a)(1)(i) of this section (Option 1); or

(6) Demonstrate initial compliance with each emission limitation that applies to you according to Table 19 of this subpart.

(7) Demonstrate initial compliance with the work practice standard in paragraph (a)(5) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.

(8) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.1574.

(c) How do I demonstrate continuous compliance with the emission limitations and work practice standards? You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 15 and 16 of this subpart that applies to you according to the methods specified in Tables 20 and 21 of this subpart.

(2) Demonstrate continuous compliance with the work practice standards in paragraph (a)(3) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

§63.1567 What are my requirements for inorganic HAP emissions from catalytic reforming units?

(a) What emission limitations and work practice standards must I meet? You must:

(1) Meet each emission limitation in Table 22 to this subpart that applies to you. If you operate a catalytic reforming unit in which different reactors in the catalytic reforming unit are regenerated in separate regeneration systems, then these emission limitations apply to each separate regeneration system. These emission limitations apply to emissions from catalytic reforming unit process vents associated with the coke burn-off and catalyst rejuvenation operations during coke burn-off and catalyst regeneration. You can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to meet a percent reduction standard for hydrogen chloride (HCl) emissions (Option 1); or

(ii) You can elect to meet an HCl concentration limit (Option 2).

(2) Meet each site-specific operating limit in Table 23 of this subpart that applies to you. These operating limits apply during coke burn-off and catalyst rejuvenation.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan.

(b) How do I demonstrate initial compliance with the emission limitations and work practice standard? You must:

(1) Install, operate, and maintain a continuous monitoring system(s) according to the requirements in §63.1572 and Table 24 of this subpart.

(2) Conduct each performance test for a catalytic reforming unit according to the requirements in §63.1571 and the conditions specified in Table 25 of this subpart.

(3) Establish each site-specific operating limit in Table 23 of this subpart that applies to you according to the procedures in Table 25 of this subpart.

(4) Use the equations in paragraphs (b)(4)(i) through (iv) of this section to determine initial compliance with the emission limitations.

(i) Correct the measured HCl concentration for oxygen (O_2) content in the gas stream using Equation 1 of this section as follows:

$$C_{HCl,3\%O_2} = \left(\frac{17.9\%}{20.9\% - \%O_2}\right) C_{HCl} \qquad \text{(Eq. 1)}$$

Where:

$C_{HCl,3\%O2}$ = Concentration of HCl on a dry basis in ppmv corrected to 3 percent oxygen or 1 ppmv, whichever is greater;

C_{HCl} = Concentration of HCl on a dry basis in ppmv, as measured by Method 26A in 40 CFR part 60, appendix A; and

$\%O_2$ = Oxygen concentration in percent by volume (dry basis).

(ii) If you elect the percent reduction standard, calculate the emission rate of HCl using Equation 2 of this section; then calculate the mass emission reduction from the mass emission rates using Equation 3 of this section as follows:

$$E_{HCl} = K_6 C_{HCl} Q_s \qquad \text{(Eq. 2)}$$

Where:

$E_{HCl,}$ = Emission rate of HCl in the vent stream, grams per hour;

K_6 = Constant, 0.091 (parts per million)$^{-1}$ (grams HCl per standard cubic meter) (minutes per hour), where the standard temperature (standard cubic meter) is at 20 degrees Celsius (C); and

Q_s = Vent stream flow rate, dscm/min, at a temperature of 20 degrees C.

$$HCl\%reduction = \frac{E_{HCl,i} - E_{HCl,o}}{E_{HCl,i}} \times 100\% \qquad \text{(Eq. 3)}$$

Where:

$E_{HCl,i}$ = Mass emission rate of HCl at control device inlet, g/hr; and

$E_{HCl,o}$ = Mass emission rate of HCl at control device outlet, g/hr.

(iii) If you are required to use a colormetric tube sampling system to demonstrate continuous compliance with the HCl concentration operating limit, calculate the HCl operating limit using Equation 4 of this section as follows:

$$C_{CHl,ppmvLimit} = 0.9 C_{HCl,AveTube} \left(\frac{C_{HCl,RegLimit}}{C_{HCl,3\%O_2}}\right) \qquad \text{(Eq. 4)}$$

Where:

$C_{HCl,ppmvLimit}$ = Maximum permissible HCl concentration for the HCl concentration operating limit, ppmv;

$C_{HCl,AveTube}$ = Average HCl concentration from the colormetric tube sampling system, calculated as the arithmetic average of the average HCl concentration measured for each performance test run, ppmv or 1 ppmv, whichever is greater; and

$C_{HCl,RegLimit}$ = Maximum permissible outlet HCl concentration for the applicable catalytic reforming unit as listed in Table 22 of this subpart, either 10 or 30 ppmv.

(iv) If you are required to use a colormetric tube sampling system to demonstrate continuous compliance with the percent reduction operating limit, calculate the HCl operating limit using Equation 5 of this section as follows:

$$C_{HCl,\%Limit} = 0.9C_{HCl,AveTube}\left(\frac{100 - \%HClReduction_{Limit}}{100 - \%HClReduction_{Test}}\right) \quad \text{(Eq. 5)}$$

Where:

$C_{HCl,}\%_{Limit}$ = Maximum permissible HCl concentration for the percent reduction operating limit, ppmv;

$\%HCl\ Reduction_{Limit}$ = Minimum permissible HCl reduction for the applicable catalytic reforming unit as listed in Table 22 of this subpart, either 97 or 92 percent; and

$\%HCl\ Reduction_{Test}$ = Average percent HCl reduction calculated as the arithmetic average HCl reduction calculated using Equation 3 of this section for each performance source test, percent.

(5) Demonstrate initial compliance with each emission limitation that applies to you according to Table 26 of this subpart.

(6) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.

(7) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.1574.

(c) *How do I demonstrate continuous compliance with the emission limitations and work practice standard?* You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 22 and 23 of this subpart that applies to you according to the methods specified in Tables 27 and 28 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by maintaining records to document conformance with the procedures in your operation, maintenance and monitoring plan.

§63.1568 What are my requirements for HAP emissions from sulfur recovery units?

(a) What emission limitations and work practice standard must I meet? You must:

(1) Meet each emission limitation in Table 29 of this subpart that applies to you. If your sulfur recovery unit is subject to the NSPS for sulfur oxides in §60.104 of this chapter, you must meet the emission limitations for NSPS units. If your sulfur recovery unit isn't subject to the NSPS for sulfur oxides, you can choose from the options in paragraphs (a)(1)(i) through (ii) of this section:

(2) Meet each operating limit in Table 30 of this subpart that applies to you.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan.

(b) How do I demonstrate initial compliance with the emission limitations and work practice standards? You must:

(1) Install, operate, and maintain a continuous monitoring system according to the requirements in §63.1572 and Table 31 of this subpart.

(4) Correct the reduced sulfur samples to zero percent excess air using Equation 1 of this section as follows:

$$C_{adj} = C_{meas}\left[20.9_c / (20.9 - \%O_2)\right] \qquad \text{(Eq. 1)}$$

Where:

C_{adj} = pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm;

C_{meas} = pollutant concentration measured on a dry basis, ppm or g/dscm;

20.9_c = 20.9 percent oxygen—0.0 percent oxygen (defined oxygen correction basis), percent;

20.9 = oxygen concentration in air, percent;

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

(5) Demonstrate initial compliance with each emission limitation that applies to you according to Table 33 of this subpart.

(6) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your notification of compliance status.

(7) Submit the notification of compliance status containing the results of the initial compliance demonstration according to the requirements in §63.1574.

(c) How do I demonstrate continuous compliance with the emission limitations and work practice standards? You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 29 and 30 of this subpart that applies to you according to the methods specified in Tables 34 and 35 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

§63.1569 What are my requirements for HAP emissions from bypass lines?

(a) *What work practice standards must I meet?* (1) You must meet each work practice standard in Table 36 of this subpart that applies to you. You can choose from the four options in paragraphs (a)(1)(i) through (iv) of this section:

(i) You can elect to install an automated system (Option 1);

(3) You must prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan.

(b) *How do I demonstrate initial compliance with the work practice standards?* You must:

(1) If you elect the option in paragraph (a)(1)(i) of this section, conduct each performance test for a bypass line according to the requirements in §63.1571 and under the conditions specified in Table 37 of this subpart.

(2) Demonstrate initial compliance with each work practice standard in Table 36 of this subpart that applies to you according to Table 38 of this subpart.

(3) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your notification of compliance status.

(4) Submit the notification of compliance status containing the results of the initial compliance demonstration according to the requirements in §63.1574.

(c) *How do I demonstrate continuous compliance with the work practice standards?* You must:

(1) Demonstrate continuous compliance with each work practice standard in Table 36 of this subpart that applies to you according to the requirements in Table 39 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(2) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

General Compliance Requirements

§63.1570 What are my general requirements for complying with this subpart?

(a) You must be in compliance with all of the non-opacity standards in this subpart during the times specified in §63.6(f)(1).

(b) You must be in compliance with the opacity and visible emission limits in this subpart during the times specified in §63.6(h)(1).

(d) You must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in §63.6(e)(3).

(e) During periods of startup, shutdown, and malfunction, you must operate in accordance with your SSMP.

(f) You must report each instance in which you did not meet each emission limitation and each operating limit in this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet the work practice standards in this subpart that apply to you. These instances are deviations from the emission limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in §63.1575.

(g) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the SSMP. The SSMP must require that good air pollution control practices are used during those periods. The plan must also include elements designed to minimize the frequency of such periods (i.e., root cause analysis). The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e) and the contents of the SSMP.

§63.1571 How and when do I conduct a performance test or other initial compliance demonstration?

(a) *When must I conduct a performance test?* You must conduct performance tests and report the results by no later than 150 days after the compliance date specified for your source in §63.1563 and according to the provisions in §63.7(a)(2). If you are required to do a performance evaluation or test for a semi-regenerative catalytic reforming unit catalyst regenerator vent, you may do them at the first regeneration cycle after your compliance date and report the results in a followup Notification of Compliance Status report due no later than 150 days after the test.

(1) For each emission limitation or work practice standard where initial compliance is not demonstrated using a performance test, opacity observation, or visible emission observation, you must conduct the initial compliance demonstration within 30 calendar days after the compliance date that is specified for your source in §63.1563.

(3) If you commenced construction or reconstruction between September 11, 1998 and April 11, 2002, you must demonstrate initial compliance with either the proposed emission limitation or the promulgated emission limitation no later than October 8, 2002 or within 180 calendar days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(b) *What are the general requirements for performance test and performance evaluations?* You must:

(1) Conduct each performance test according to the requirements in §63.7(e)(1).

(2) Except for opacity and visible emission observations, conduct three separate test runs for each performance test as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(3) Conduct each performance evaluation according to the requirements in §63.8(e).

(4) Not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(5) Calculate the average emission rate for the performance test by calculating the emission rate for each individual test run in the units of the applicable emission limitation using Equation 2, 5, or 8 of §63.1564, and determining the arithmetic average of the calculated emission rates.

(c) *What procedures must I use for an engineering assessment?* You may choose to use an engineering assessment to calculate the process vent flow rate, net heating value, TOC emission rate, and total organic HAP emission rate expected to yield the highest daily emission rate when determining the emission reduction or outlet concentration for the organic HAP standard for catalytic reforming units. If you use an engineering assessment, you must document all data, assumptions, and procedures to the satisfaction of the applicable permitting authority. An engineering assessment may include the approaches listed in paragraphs (c)(1) through (c)(4) of this section. Other engineering assessments may be used but are subject to review and approval by the applicable permitting authority.

(1) You may use previous test results provided the tests are representative of current operating practices at the process unit, and provided EPA methods or approved alternatives were used;

(2) You may use bench-scale or pilot-scale test data representative of the process under representative operating conditions;

(3) You may use maximum flow rate, TOC emission rate, organic HAP emission rate, or organic HAP or TOC concentration specified or implied within a permit limit applicable to the process vent; or

(4) You may use design analysis based on engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(i) Use of material balances based on process stoichiometry to estimate maximum TOC concentrations;

(ii) Calculation of hourly average maximum flow rate based on physical equipment design such as pump or blower capacities; and

(iii) Calculation of TOC concentrations based on saturation conditions.

(d) *Can I adjust the process or control device measured values when establishing an operating limit?* If you do a performance test to demonstrate compliance, you must base the process or control device operating limits for continuous parameter monitoring systems on the results measured during the

performance test. You may adjust the values measured during the performance test according to the criteria in paragraphs (d)(1) through (3) of this section.

(1) If you must meet the HAP metal emission limitations in §63.1564, you elect the option in paragraph (a)(1)(iii) in §63.1564 (Ni lb/hr), and you use continuous parameter monitoring systems, you must establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. Section 63.1564(b)(2) allows you to adjust the laboratory measurements of the equilibrium catalyst Ni concentration to the maximum level. You must make this adjustment using Equation 1 of this section as follows:

$$\text{Ecat} - \text{Limit} = \frac{13\,\text{g Ni/hr}}{\text{NiEmR1}_{st}} \times \text{Ecat}_{st} \qquad \text{(Eq. 1)}$$

Where:

Ecat-Limit = Operating limit for equilibrium catalyst Ni concentration, mg/kg;

NiEmR1_{st} = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 5 of this section for each performance test run, g Ni/hr; and

Ecat_{st} = Average equilibrium Ni concentration from laboratory test results, mg/kg.

(2) If you must meet the HAP metal emission limitations in §63.1564, you elect the option in paragraph (a)(1)(iv) in §63.1564 (Ni lb/1,000 lb of coke burn-off), and you use continuous parameter monitoring systems, you must establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. Section 63.1564(b)(2) allows you to adjust the laboratory measurements of the equilibrium catalyst Ni concentration to the maximum level. You must make this adjustment using Equation 2 of this section as follows:

$$\text{Ecat} - \text{Limit} = \frac{1.0\,\text{mg/kg coke burn-off}}{\text{NiEmR2}_{st}} \times \text{Ecat}_{st} \qquad \text{(Eq. 2)}$$

Where:

NiEmR2_{st} = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 8 of §63.1564 for each performance test run, mg/kg coke burn-off.

(3) If you choose to adjust the equilibrium catalyst Ni concentration to the maximum level, you can't adjust any other monitored operating parameter (i.e., gas flow rate, voltage, pressure drop, liquid-to-gas ratio).

(4) Except as specified in paragraph (d)(3) of this section, if you use continuous parameter monitoring systems, you may adjust one of your monitored operating parameters (flow rate, voltage and secondary current, pressure drop, liquid-to-gas ratio) from the average of measured values during the performance test to the maximum value (or minimum value, if applicable) representative of worst-case operating conditions, if necessary. This adjustment of measured values may be done using control device design specifications, manufacturer recommendations, or other applicable information. You must provide supporting documentation and rationale in your Notification of Compliance Status, demonstrating to the satisfaction of your permitting authority, that your affected source complies with the applicable emission limit at the operating limit based on adjusted values.

(e) Can I change my operating limit? You may change the established operating limit by meeting the requirements in paragraphs (e)(1) through (3) of this section.

(1) You may change your established operating limit for a continuous parameter monitoring system by doing an additional performance test, a performance test in conjunction with an engineering assessment, or an additional performance test, a performance test in conjunction with an engineering assessment, or

an engineering assessment to verify that, at the new operating limit, you are in compliance with the applicable emission limitation.

(2) You must establish a revised operating limit for your continuous parameter monitoring system if you make any change in process or operating conditions that could affect control system performance or you change designated conditions after the last performance or compliance tests were done. You can establish the revised operating limit as described in paragraph (e)(1) of this section.

§63.1572 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each continuous emission monitoring system according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) You must install, operate, and maintain each continuous emission monitoring system according to the requirements in Table 40 of this subpart.

(2) If you use a continuous emission monitoring system to meet the NSPS CO or SO_2 limit, you must conduct a performance evaluation of each continuous emission monitoring system according to the requirements in §63.8 and Table 40 of this subpart. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(3) As specified in §63.8(c)(4)(ii), each continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) Data must be reduced as specified in §63.8(g)(2).

(b) You must install, operate, and maintain each continuous opacity monitoring system according to the requirements in paragraphs (b)(1) through (3) of this section.

(1) Each continuous opacity monitoring system must be installed, operated, and maintained according to the requirements in Table 40 of this subpart.

(2) If you use a continuous opacity monitoring system to meet the NSPS opacity limit, you must conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in §63.8 and Table 40 of this subpart. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(3) As specified in §63.8(c)(4)(i), each continuous opacity monitoring system must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(c) Your must install, operate, and maintain each continuous parameter monitoring system according to the requirements in paragraphs (c)(1) through (5) of this section.

(1) The owner or operator shall install, operate, and maintain each continuous parameter monitoring system in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately. The owner or operator shall also meet the equipment specifications in Table 41 of this subpart if pH strips or colorimetric tube sampling systems are used.

(2) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data (or at least two if a calibration check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

(3) Each continuous parameter monitoring system must have valid hourly average data from at least 75 percent of the hours during which the process operated.

(4) Each continuous parameter monitoring system must determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day. The daily average must cover a 24-hour period if operation is continuous or the number of hours of operation per day if operation is not continuous.

(5) Each continuous parameter monitoring system must record the results of each inspection, calibration, and validation check.

(d) You must monitor and collect data according to the requirements in paragraphs (d)(1) and (2) of this section.

(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the affected source is operating.

(2) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes of this regulation, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

§63.1573 What are my monitoring alternatives?

(a) *What are the approved alternatives for measuring gas flow rate?* (1) You may use this alternative to a continuous parameter monitoring system for the catalytic regenerator exhaust gas flow rate for your catalytic cracking unit if the unit does not introduce any other gas streams into the catalyst regeneration vent (i.e., complete combustion units with no additional combustion devices). You may also use this alternative to a continuous parameter monitoring system for the catalytic regenerator atmospheric exhaust gas flow rate for your catalytic reforming unit during the coke burn and rejuvenation cycles if the unit operates as a constant pressure system during these cycles. If you use this alternative, you shall use the same procedure for the performance test and for monitoring after the performance test. You shall:

(i) Install and operate a continuous parameter monitoring system to measure and record the hourly average volumetric air flow rate to the catalytic cracking unit or catalytic reforming unit regenerator. Or, you may determine and record the hourly average volumetric air flow rate to the catalytic cracking unit or catalytic reforming unit regenerator using the appropriate control room instrumentation.

(ii) Install and operate a continuous parameter monitoring system to measure and record the temperature of the gases entering the control device (or exiting the catalyst regenerator if you do not use an add-on control device).

(iii) Calculate and record the hourly average actual exhaust gas flow rate using Equation 1 of this section as follows:

$$Q_{gas} = (1.12\,\text{scfm}/\text{dscfm}) \times (Q_{air} + Q_{other}) \times \left(\frac{\text{Temp}_{gas}}{293^{\circ}\text{K}}\right) \times \left(\frac{1\text{atm.}}{P_{vent}}\right) \qquad \text{(Eq. 1)}$$

Where

Q_{gas} = Hourly average actual gas flow rate, acfm;

1.12 = Default correction factor to convert gas flow from dry standard cubic feet per minute (dscfm) to standard cubic feet per minute (scfm);

Q_{air} = Volumetric flow rate of air to regenerator, as determined from the control room instrumentations, dscfm;

Q_{other} = Volumetric flow rate of other gases entering the regenerator as determined from the control room instrumentations, dscfm. (Examples of "other" gases include an oxygen-enriched air stream to catalytic cracking unit regenerators and a nitrogen stream to catalytic reforming unit regenerators.);

$Temp_{gas}$ = Temperature of gas stream in vent measured as near as practical to the control device or opacity monitor, °K. For wet scrubbers, temperature of gas prior to the wet scrubber; and

P_{vent} = Absolute pressure in the vent measured as near as practical to the control device or opacity monitor, as applicable, atm. When used to assess the gas flow rate in the final atmospheric vent stack, you can assume P_{vent} = 1 atm.

(2) You may use this alternative to calculating Q_r, the volumetric flow rate of exhaust gas for the catalytic cracking regenerator as required in Equation 1 of §63.1564, if you have a gas analyzer installed in the catalytic cracking regenerator exhaust vent prior to the addition of air or other gas streams. You may measure upstream or downstream of an electrostatic precipitator, but you shall measure upstream of a carbon monoxide boiler. You shall:

(i) Install and operate a continuous parameter monitoring system to measure and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator. Or, you can determine and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator using the catalytic cracking unit control room instrumentation.

(ii) Install and operate a continuous gas analyzer to measure and record the concentration of carbon dioxide, carbon monoxide, and oxygen of the catalytic cracking regenerator exhaust.

(iii) Calculate and record the hourly average flow rate using Equation 2 of this section as follows:

$$Q_r = \frac{79 \times Q_{air} + (100 - \%O_{xy}) \times Q_{oxy}}{100 - \%CO_2 - \%CO - \%O_2} \qquad \text{(Eq. 2)}$$

Where:

Q_r = Volumetric flow rate of exhaust gas from the catalyst regenerator before adding air or gas streams, dscm/min (dscf/min);

79 = Default concentration of nitrogen and argon in dry air, percent by volume (dry basis);

$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis);

Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator as determined from the catalytic cracking unit control room instrumentations, dscm/min (dscf/min);

$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);

CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis); and

$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis).

(c) *Can I use another type of monitoring system?* You may request approval from your permitting authority to use an automated data compression system. An automated data compression system does not record monitored operating parameter values at a set frequency (e.g., once every hour) but records all values that meet set criteria for variation from previously recorded values. Your request must contain a description of the monitoring system and data recording system, including the criteria used to determine

which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all of the criteria in paragraphs (c)(1) through (5) of this section:

(1) The system measures the operating parameter value at least once every hour;

(2) The system records at least 24 values each day during periods of operation;

(3) The system records the date and time when monitors are turned off or on;

(4) The system recognizes unchanging data that may indicate the monitor is not functioning properly, alerts the operator, and records the incident; and

(5) The system computes daily average values of the monitored operating parameter based on recorded data.

(e) *How do I request to monitor alternative parameters?* You must submit a request for review and approval or disapproval to the Administrator. The request must include the information in paragraphs (e)(1) through (5) of this section.

(1) A description of each affected source and the parameter(s) to be monitored to determine whether the affected source will continuously comply with the emission limitations and an explanation of the criteria used to select the parameter(s).

(2) A description of the methods and procedures that will be used to demonstrate that the parameter can be used to determine whether the affected source will continuously comply with the emission limitations and the schedule for this demonstration. You must certify that you will establish an operating limit for the monitored parameter(s) that represents the conditions in existence when the control device is being properly operated and maintained to meet the emission limitation.

(3) The frequency and content of monitoring, recording, and reporting, if monitoring and recording are not continuous. You also must include the rationale for the proposed monitoring, recording, and reporting requirements.

(4) Supporting calculations.

(5) Averaging time for the alternative operating parameter.

Notifications, Reports, and Records

§63.1574 What notifications must I submit and when?

(a) Except as allowed in paragraphs (a)(1) through (3) of this section, you must submit all of the notifications in §§63.6(h), 63.7(b) and (c), 63.8(e), 63.8(f)(4), 63.8(f)(6), and 63.9(b) through (h) that apply to you by the dates specified.

(1) You must submit the notification of your intention to construct or reconstruct according to §63.9(b)(5) unless construction or reconstruction had commenced and initial startup had not occurred before April 11, 2002. In this case, you must submit the notification as soon as practicable before startup but no later than July 10, 2002. This deadline also applies to the application for approval of construction or reconstruction and approval of construction or reconstruction based on State preconstruction review required in §§63.5(d)(1)(i) and 63.5(f)(2).

(2) You must submit the notification of intent to conduct a performance test required in §63.7(b) at least 30 calendar days before the performance test is scheduled to begin (instead of 60 days).

(3) If you are required to conduct a performance test, performance evaluation, design evaluation, opacity observation, visible emission observation, or other initial compliance demonstration, you must submit a notification of compliance status according to §63.9(h)(2)(ii). You can submit this information in an

operating permit application, in an amendment to an operating permit application, in a separate submission, or in any combination. In a State with an approved operating permit program where delegation of authority under section 112(l) of the CAA has not been requested or approved, you must provide a duplicate notification to the applicable Regional Administrator. If the required information has been submitted previously, you do not have to provide a separate notification of compliance status. Just refer to the earlier submissions instead of duplicating and resubmitting the previously submitted information.

(i) For each initial compliance demonstration that does not include a performance test, you must submit the Notification of Compliance Status no later than 30 calendar days following completion of the initial compliance demonstration.

(ii) For each initial compliance demonstration that includes a performance test, you must submit the notification of compliance status, including the performance test results, no later than 150 calendar days after the compliance date specified for your affected source in §63.1563.

(c) If you startup your new or reconstructed affected source on or after April 11, 2002, you must submit the initial notification no later than 120 days after you become subject to this subpart.

(d) You also must include the information in Table 42 of this subpart in your notification of compliance status.

(f) As required by this subpart, you must prepare and implement an operation, maintenance, and monitoring plan for each control system and continuous monitoring system for each affected source. The purpose of this plan is to detail the operation, maintenance, and monitoring procedures you will follow.

(1) You must submit the plan to your permitting authority for review and approval along with your notification of compliance status. While you do not have to include the entire plan in your part 70 or 71 permit, you must include the duty to prepare and implement the plan as an applicable requirement in your part 70 or 71 operating permit. You must submit any changes to your permitting authority for review and approval and comply with the plan until the change is approved.

(2) Each plan must include, at a minimum, the information specified in paragraphs (f)(2)(i) through (xii) of this section.

(i) Process and control device parameters to be monitored for each affected source, along with established operating limits.

(ii) Procedures for monitoring emissions and process and control device operating parameters for each affected source.

(iii) Procedures that you will use to determine the coke burn-rate, the volumetric flow rate (if you use process data rather than direct measurement), and the rate of combustion of liquid or solid fossil fuels if you use an incinerator-waste heat boiler to burn the exhaust gases from a catalyst regenerator.

(v) Procedures you will use to determine the pH of the water (or scrubbing liquid) exiting a wet scrubber if you use pH strips.

(vi) Procedures you will use to determine the HCl concentration of gases from a catalytic reforming unit when you use a colormetric tube sampling system, including procedures for correcting for pressure (if applicable to the sampling equipment) and the sampling locations that will be used for compliance monitoring purposes.

(vii) Procedures you will use to determine the gas flow rate for a catalytic cracking unit if you use the alternative procedure based on air flow rate and temperature.

(viii) Monitoring schedule, including when you will monitor and when you will not monitor an affected source (e.g., during the coke burn-off, regeneration process).

(ix) Quality control plan for each continuous opacity monitoring system and continuous emission monitoring system you use to meet an emission limit in this subpart. This plan must include procedures you will use for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system.

(x) Maintenance schedule for each monitoring system and control device for each affected source that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.

§63.1575 What reports must I submit and when?

(a) You must submit each report in Table 43 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule, you must submit each report by the date in Table 43 of this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.1563 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in §63.1563.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.1563.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A) of this chapter, you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If there are no deviations from any emission limitation that applies to you and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system or continuous opacity monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

(d) For each deviation from an emission limitation and for each deviation from the requirements for work practice standards that occurs at an affected source where you are not using a continuous opacity

monitoring system or a continuous emission monitoring system to comply with the emission limitation or work practice standard in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (3) of this section and the information in paragraphs (d)(1) through (3) of this section.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(3) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

(e) For each deviation from an emission limitation occurring at an affected source where you are using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation, you must include the information in paragraphs (d)(1) through (3) of this section and the information in paragraphs (e)(1) through (13) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each continuous opacity monitoring system or continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

(3) The date and time that each continuous opacity monitoring system or continuous emission monitoring system was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging period specified in the regulation for other types of emission limitations), and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period and into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging time specified in the regulation for other types of standards), and the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system as a percent of the total source operating time during that reporting period.

(8) A breakdown of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.

(9) An identification of each HAP that was monitored at the affected source.

(10) A brief description of the process units.

(11) The monitoring equipment manufacturer(s) and model number(s).

(12) The date of the latest certification or audit for the continuous opacity monitoring system or continuous emission monitoring system.

(13) A description of any change in the continuous emission monitoring system or continuous opacity monitoring system, processes, or controls since the last reporting period.

(f) You also must include the information required in paragraphs (f)(1) through (2) of this section in each compliance report, if applicable.

(1) A copy of any performance test done during the reporting period on any affected unit. The report may be included in the next semiannual report. The copy must include a complete report for each test method used for a particular kind of emission point tested. For additional tests performed for a similar emission point using the same method, you must submit the results and any other information required, but a complete test report is not required. A complete test report contains a brief process description; a simplified flow diagram showing affected processes, control equipment, and sampling point locations; sampling site data; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures; record of operating conditions during the test; record of preparation of standards; record of calibrations; raw data sheets for field sampling; raw data sheets for field and laboratory analyses; documentation of calculations; and any other information required by the test method.

(2) Any requested change in the applicability of an emission standard (e.g., you want to change from the PM standard to the Ni standard for catalytic cracking units or from the HCl concentration standard to percent reduction for catalytic reforming units) in your periodic report. You must include all information and data necessary to demonstrate compliance with the new emission standard selected and any other associated requirements.

(g) You may submit reports required by other regulations in place of or as part of the compliance report if they contain the required information.

(h) The reporting requirements in paragraphs (h)(1) and (2) of this section apply to startups, shutdowns, and malfunctions:

(1) When actions taken to respond are consistent with the plan, you are not required to report these events in the semiannual compliance report and the reporting requirements in §§63.6(e)(3)(iii) and 63.10(d)(5) do not apply.

(2) When actions taken to respond are not consistent with the plan, you must report these events and the response taken in the semiannual compliance report. In this case, the reporting requirements in §§63.6(e)(3)(iv) and 63.10(d)(5) do not apply.

§63.1576 What records must I keep, in what form, and for how long?

(a) You must keep the records specified in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity and visible emission observations as required in §63.10(b)(2)(viii).

(b) For each continuous emission monitoring system and continuous opacity monitoring system, you must keep the records required in paragraphs (b)(1) through (5) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in §63.6(h)(7)(i) and (ii).

(3) Previous (i.e., superceded) versions of the performance evaluation plan as required in §63.8(d)(3).

(4) Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in §63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records in §63.6(h) for visible emission observations.

(d) You must keep records required by Tables 6, 7, 13, and 14 of this subpart (for catalytic cracking units); Tables 20, 21, 27 and 28 of this subpart (for catalytic reforming units); Tables 34 and 35 of this subpart (for sulfur recovery units); and Table 39 of this subpart (for bypass lines) to show continuous compliance with each emission limitation that applies to you.

(e) You must keep a current copy of your operation, maintenance, and monitoring plan onsite and available for inspection. You also must keep records to show continuous compliance with the procedures in your operation, maintenance, and monitoring plan.

(f) You also must keep the records of any changes that affect emission control system performance including, but not limited to, the location at which the vent stream is introduced into the flame zone for a boiler or process heater.

(g) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(h) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(i) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records offsite for the remaining 3 years.

Table 1 to Subpart UUU of Part 63—Metal HAP Emission Limits for Catalytic Cracking Units

As stated in §63.1564(a)(1), you shall meet each emission limitation in the following table that applies to you.

For each new or existing catalytic cracking unit	You shall meet the following emission limits for each catalyst regenerator vent.
2. Option 1: NSPS requirements not subject to the NSPS for PM in 40 CFR 60.102.	PM emissions must not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, the incremental rate of PM must not exceed 43.0 g/GJ (0.10 lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.

Table 2 to Subpart UUU of Part 63—Operating Limits for Metal HAP Emissions From Catalytic Cracking Units

As stated in §63.1564(a)(2), you shall meet each operating limit in the following table that applies to you.

For each new or existing catalytic cracking unit	For this type of continuous monitoring system	For this type of control device	You shall meet this operating limit
2. Option 1: NSPS requirements not subject to the NSPS for PM in 40 CFR 60.102.	Continuous opacity monitoring system.	Not applicable.	Not applicable.

Table 3 to Subpart UUU of Part 63—Continuous Monitoring Systems for Metal HAP Emissions From Catalytic Cracking Units

As stated in §63.1564(b)(1), you shall meet each requirement in the following table that applies to you.

For each new or existing catalytic cracking unit	If your catalytic cracking unit is	And you use this type of control device for your vent	You shall install, operate, and maintain a
3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Over 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator.	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.

Table 4 to Subpart UUU of Part 63—Requirements for Performance Tests for Metal HAP Emissions From Catalytic Cracking Units Not Subject to the New Source Performance Standard (NSPS) for Particulate Matter (PM)

As stated in §63.1564(b)(2), you shall meet each requirement in the following table that applies to you.

For each new or existing catalytic cracking unit catalyst regenerator vent	You must	Using	According to these requirements
1. If you elect Option 1 in item 2 of Table 1, Option 2 in item 3 of Table 1, Option 3 in item 4 of Table 1, or Option 4 in item 5 of Table 1 of this subpart.	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A in appendix A to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device or the outlet of the regenerator, as applicable, and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.	
	d. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	

For each new or existing catalytic cracking unit catalyst regenerator vent	You must	Using	According to these requirements
	e. If you use an electro-static precipitator, record the total number of fields in the control system and how many operated during the applicable performance test.		
2. Option 1: Elect NSPS	a. Measure PM emissions.	Method 5B or 5F (40 CFR part 60, appendix A) to determine PM emissions and associated moisture content for units without wet scrubbers. Method 5B (40 CFR part 60, appendix A) to determine PM emissions and associated moisture content for unit with wet scrubber.	You must maintain a sampling rate of at least 0.15 dry standard cubic meters per minute (dscm/min) (0.53 dry standard cubic feet per minute (dscf/min).
	b. Compute PM emission rate (lbs/1,000 lbs) of coke burn-off.	Equations 1, 2, and 3 of §63.1564 (if applicable).	
	c. Measure opacity of emissions.	Continuous opacity monitoring system.	You must collect opacity monitoring data every 10 seconds during the entire period of the Method 5B or 5F performance test and reduce the data to 6-minute averages.

Table 5 to Subpart UUU of Part 63—Initial Compliance With Metal HAP Emission Limits for Catalytic Cracking Units

As stated in §63.1564(b)(5), you shall meet each requirement in the following table that applies to you.

For each new and existing catalytic cracking unit catalyst regenerator vent	For the following emission limit	You have demonstrated initial compliance if
2. Option 1: Elect NSPS not subject to the NSPS for PM.	PM emission must not exceed 1.0 kg/ 1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, the incremental rate of PM must not exceed 43.0 g/GJ (0.10 lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	The average PM emission rate, measured using EPA Method 5B or 5F (for a unit without a wet scrubber) or 5B (for a unit with a wet scrubber), over the period of the initial performance test, is no higher than 1.0 kg/1,000 kg (1.0 lb/1,000 lb of coke burn-off in the catalyst regenerator. The PM emission rate is calculated using Equations 1 and 2 of §63.1564. If applicable, the average PM emission rate, measured using EPA Method 5B emission rate, measured using EPA Method 5B or 5F (for a unit without a wet scrubber) or Method 5B (for a unit with a wet scrubber) over the period of the initial performance test, is no higher than 43.0 g/GJ (0.10 lb/ million Btu) of heat input attributable to the liquid or solid fossil fuel. The PM emission rate is calculated using Equation 3 of §63.1564; no more than one 6-minute average measured by the continuous opacity monitoring system exceeds 30 percent opacity in any 1-hour period over the period of the performance test; and your performance evaluation shows the continuous opacity monitoring system meets the applicable requirements in §63.1572.

Table 6 to Subpart UUU of Part 63—Continuous Compliance With Metal HAP Emission Limits for Catalytic Cracking Units

As stated in §63.1564(c)(1), you shall meet each requirement in the following table that applies to you.

For each new and existing catalytic cracking unit	Subject to this emission limit for your catalyst regenerator vent	You shall demonstrate continuous compliance by
1. Subject to the NSPS for PM in 40 CFR 60.102.	a. PM emissions must not exceed 1.0 kg/ 1,000 kg (1.0 lb/ 1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, the incremental rate of PM must not exceed 43.0 g/GJ (0.10 lb/ million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	i. Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 1 in §63.1564 and the hours of operation for each catalyst regenerator; maintaining PM emission rate below 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off; if applicable, determining and recording each day the rate of combustion of liquid or solid fossil fuels (liters/hour or kilograms/hour) and the hours of operation during which liquid or solid fossil-fuels are combusted in the incinerator- waste heat boiler; if applicable, maintaining the PM rate incinerator below 43 g/GJ (0.10 lb/million Btu) of heat input attributable to the solid or liquid fossil fuel; collecting the continuous opacity monitoring data for each catalyst regenerator vent according to §63.1572; and maintaining each 6- minute average at or below 30 percent except that one 6- minute average during a 1-hour period can exceed 30 percent.

For each new and existing catalytic cracking unit	Subject to this emission limit for your catalyst regenerator vent	You shall demonstrate continuous compliance by
2. Option 1: Elect NSPS not subject to the NSPS for PM in 40 CFR 60.102.	See item 1.a. of this table.	See item 1.a.i. of this table.

Table 7 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Metal HAP Emissions From Catalytic Cracking Units

As stated in §63.1564(c)(1), you shall meet each requirement in the following table that applies to you.

For each new or existing catalytic cracking unit	If you use	For this operating limit	You shall demonstrate continuous compliance by
2. Option 1: Elect NSPS not subject to the NSPS for PM in 40 CFR 60.102.	Continuous opacity monitoring system.	Not applicable.	Complying with Table 6 of this subpart.

Table 8 to Subpart UUU of Part 63—Organic HAP Emission Limits for Catalytic Cracking Units

As stated in §63.1565(a)(1), you shall meet each emission limitation in the following table that applies to you.

For each new and existing catalytic cracking unit	You shall meet the following emission limit for each catalyst regenerator
2. Not subject to the NSPS for CO in 40 CFR 60.103	a. CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).

Table 9 to Subpart UUU of Part 63—Operating Limits for Organic HAP Emissions From Catalytic Cracking Units

As stated in §63.1565(a)(2), you shall meet each operating limit in the following table that applies to you.

For each new or existing catalytic cracking unit	For this type of continuous monitoring system	For this type of control device	You shall meet this operating limit
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. Continuous emission monitoring system.	Not applicable	Not applicable.

Table 10 to Subpart UUU of Part 63—Continuous Monitoring Systems for Organic HAP Emissions From Catalytic Cracking Units

As stated in §63.1565(b)(1), you shall meet each requirement in the following table that applies to you.

For each new or existing catalytic cracking unit	And you use this type of control device for your vent	You shall install, operate, and maintain this type of continuous monitoring system
2. Not subject to the NSPS for CO in 40 CFR 60.103.	D. No control device	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent.

Table 11 to Subpart UUU of Part 63—Requirements for Performance Tests for Organic HAP Emissions From Catalytic Cracking Units Not Subject to New Source Performance Standard (NSPS) for Carbon Monoxide (CO)

As stated in §63.1565(b)(2) and (3), you shall meet each requirement in the following table that applies to you.

For	You must	Using	According to these requirements
1. Each new or existing catalytic cracking unit catalyst regenerator vent.	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A in appendix A to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device or the outlet of the regenerator, as applicable, and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.	
	d. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
2. For each new or existing catalytic cracking unit catalyst regenerator vent if you use a continuous emission monitoring system.	Measure CO emissions	Data from your continuous emission monitoring system.	Collect CO monitoring data for each vent for 24 consecutive operating hours; and reduce the continuous emission monitoring data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period.

Table 12 to Subpart UUU of Part 63—Initial Compliance With Organic HAP Emission Limits for Catalytic Cracking Units

As stated in §63.1565(b)(4), you shall meet each requirement in the following table that applies to you.

For each new and existing catalytic cracking unit	For the following emission limit	You have demonstrated initial compliance if
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	ii. If you use a continuous emission monitoring system, the hourly average CO emissions over the 24-hour period for the initial performance test are not more than 500 ppmv (dry basis); and your performance evaluation shows your continuous emission monitoring system meets the applicable requirements in §63.1572.

Table 13 to Subpart UUU of Part 63—Continuous Compliance With Organic HAP Emission Limits for Catalytic Cracking Units

As stated in §63.1565(c)(1), you shall meet each requirement in the following table that applies to you.

For each new and existing catalytic cracking unit	Subject to this emission limit for your catalyst regenerator vent	If you must	You shall demonstrate continuous compliance by
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103.	CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous emission monitoring system.	Collecting the hourly average CO monitoring data according to §63.1572; and maintaining the hourly average CO concentration at or below 500 ppmv (dry basis).
2. Not subject to the NSPS for CO in 40 CFR 60.103.	i. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous emission monitoring system.	Same as above.

Table 14 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Organic HAP Emissions From Catalytic Cracking Units

As stated in §63.1565(c)(1), you shall meet each requirement in the following table that applies to you.

For each new existing catalytic cracking unit	If you use	For this operating limit	You shall demonstrate continuous compliance by
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. Continuous emission monitoring system.	Not applicable	Complying with Table 13 of this subpart.

Table 15 to Subpart UUU of Part 63—Organic HAP Emission Limits for Catalytic Reforming Units

As stated in §63.1566(a)(1), you shall meet each emission limitation in the following table that applies to you.

For each applicable process vent for a new or existing catalytic reforming unit	You shall meet this emission limit during initial catalyst depressuring and catalyst purging operations
1. Option 1	Vent emissions to a flare that meets the requirements for control devices in §63.11(b). Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period.

Table 16 to Subpart UUU of Part 63—Operating Limits for Organic HAP Emissions From Catalytic Reforming Units

As stated in §63.1566(a)(2), you shall meet each operating limit in the following table that applies to you.

For each new or existing catalytic reforming unit	For this type of control device	You shall meet this operating limit during initial catalyst depressuring and purging operations
1. Option 1: vent to flare.	Flare that meets the requirements for control devices in §63.11(b).	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.

Table 17 to Subpart UUU of Part 63—Continuous Monitoring Systems for Organic HAP Emissions From Catalytic Reforming Units

As stated in §63.1566(b)(1), you shall meet each requirement in the following table that applies to you.

For each applicable process vent for a new or existing catalytic reforming unit	If you use this type of control device	You shall install and operate this type of continuous monitoring system
1. Option 1: vent to a flare	Flare that meets the requirements for control devices in §63.11(b).	Monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame.

Table 18 to Subpart UUU of Part 63—Requirements for Performance Tests for Organic HAP Emissions From Catalytic Reforming Units

As stated in §63.1566(b)(2) and (3), you shall meet each requirement in the following table that applies to you.

For each new or exiting catalytic reforming unit	You must	Using	According to these requirements
1. Option 1: Vent to a flare	a. Conduct visible emission observations. b. Determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity.	Method 22 (40 CFR part 60, appendix A). Not applicable.	2-hour observation period. Record the presence of a flame at the pilot light over the full period of the test. 40 CFR 63.11(b)(6) through (8).

Table 19 to Subpart UUU of Part 63—Initial Compliance With Organic HAP Emission Limits for Catalytic Reforming Units

As stated in §63.1566(b)(7), you shall meet each requirement in the following table that applies to you.

For each applicable process vent for a new or existing catalytic reforming unit	For the following emission limit	You have demonstrated initial compliance if
Option 1	Visible emissions from a flare must not exceed a total of 5 minutes during any 2 consecutive hours.	Visible emissions, measured using Method 22 over the 2-hour observation period of the performance test, do not exceed a total of 5 minutes.

Table 20 to Subpart UUU of Part 63—Continuous Compliance With Organic HAP Emission Limits for Catalytic Reforming Units

As stated in §63.1566(c)(1), you shall meet each requirement in the following table that applies to you.

For each applicable process vent for a new or existing catalytic reforming unit	For this emission limit	You shall demonstrate continuous compliance during initial catalyst depressuring and catalyst purging operations by
1. Option 1	Vent emissions from your process vent to a flare that meets the requirements in §63.11(b).	Maintaining visible emissions from a flare below a total of 5 minutes during any 2 consecutive hours.

Table 21 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Organic HAP Emissions From Catalytic Reforming Units

As stated in §63.1566(c)(1), you shall meet each requirement in the following table that applies to you.

For each applicable process vent for a new or existing catalytic reforming unit	If you use	For this operating limit	You shall demonstrate continuous compliance during initial catalyst depressuring and purging operations by
1. Option 1	Flare that meets the requirements in §63.11(b).	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.	Collecting flare monitoring data according to §63.1572; and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period.

Table 22 to Subpart UUU of Part 63—Inorganic HAP Emission Limits for Catalytic Reforming Units

As stated in §63.1567(a)(1), you shall meet each emission limitation in the following table that applies to you.

For	You shall meet this emission limit for each applicable catalytic reforming unit process vent during coke burn- off and catalyst rejuvenation
2. Each existing cyclic or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.

Table 23 to Subpart UUU of Part 63—Operating Limits for Inorganic HAP Emission Limitations for Catalytic Reforming Units

As stated in §63.1567(a)(2), you shall meet each operating limit in the following table that applies to you.

For each applicable process vent for a new or existing catalytic reforming unit with this type of control device	You shall meet this operating limit during coke burn-off and catalyst rejuvenation
1. Wet scrubber	The daily average pH or alkalinity of the water (or scrubbing liquid) exiting the scrubber must not fall below the limit established during the performance test; and the daily average liquid-to-gas ratio must not fall below the limit established during the performance test.
3. Internal scrubbing system meeting HCl percent reduction standard.	The daily average pH or alkalinity of the water (or scrubbing liquid) exiting the internal scrubbing system must not fall below the limit established during the performance test; and the daily average liquid-to-gas ratio must not fall below the limit established during the performance test.

Table 24 to Subpart UUU of Part 63—Continuous Monitoring Systems for Inorganic HAP Emissions From Catalytic Reforming Units

As stated in §63.1567(b)(1), you shall meet each requirement in the following table that applies to you.

If you use this type of control device for your vent	You shall install and operate this type of continuous monitoring system
1. Wet scrubber	Continuous parameter monitoring system to measure and record the total water (or scrubbing liquid) flow rate entering the scrubber during coke burn-off and catalyst rejuvenation; and continuous parameter monitoring system to measure and record gas flow rate entering or exiting the scrubber during coke burn-off and catalyst rejuvenation \1\; and continuous parameter monitoring system to measure and record the pH or alkalinity of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation. \2\
3. Internal scrubbing system to meet HC1 percent reduction standard.	Continuous parameter monitoring system to measure and record the gas flow rate entering or exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation; and continuous parameter monitoring system to measure and record the total water (or scrubbing liquid) flow rate entering the internal scrubbing system during coke burn-off and catalyst rejuvenation; and continuous parameter monitoring system to measure and record the pH or alkalinity of the water (or scrubbing liquid) exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation. \2\

If you use this type of control device for your vent	You shall install and operate this type of continuous monitoring system
\1\ If applicable, you can use the alternative in §63.1573 (a)(1) instead of a continuous parameter monitoring system for gas flow rate or instead of a continuous parameter monitoring system for the cumulative volume of gas. \2\ If applicable, you can use the alternative in §63.1573(b)(1) instead of a continuous parameter monitoring system for pH of the water (or scrubbing liquid) or the alternative in §63.1573(b)(2) instead of a continuous parameter monitoring system for alkalinity of the water (or scrubbing liquid).	

Table 25 to Subpart UUU of Part 63—Requirements for Performance Tests for Inorganic HAP Emissions From Catalytic Reforming Units

As stated in §63.1567(b)(2) and (3), you shall meet each requirement in the following table that applies to you.

For each new and existing catalytic reforming unit using	You shall	Using	According to these requirements
1. Any or no control system	a. Select sampling port location(s) and the number of traverse points.	Method 1 or 1A (40 CFR part 60, appendix A), as applicable.	(1) If you operate a control device and you elect to meet an applicable HCl percent reduction standard, sampling sites must be located at the inlet of the control device or internal scrubbing system and at the outlet of the control device or internal scrubber system prior to any release to the atmosphere. For a series of fixed-bed systems, the outlet sampling site should be located at the outlet of the first fixed- bed, prior to entering the second fixed-bed in the series. (2) If you elect to meet an applicable HCl outlet concentration limit, locate sampling sites at the outlet of the control device or internal scrubber system prior to any release to the atmosphere. For a series of fixed-bed systems, the outlet sampling site should be located at the outlet of the first fixed- bed, prior to entering the second fixed-bed in the series. If there is no control device, locate sampling sites at the outlet of the catalyst regenerator prior to any release to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G (40 CFR part 60, appendix A), as applicable.	
	c. Conduct gas molecular weight analysis.	Method 3, 3A, or 3B (40 CFR part 60, appendix A), as applicable.	

For each new and existing catalytic reforming unit using	You shall	Using	According to these requirements
	d. Measure moisture content of the stack gas.	Method 4 (40 CFR part 60, appendix A).	
	e. Measure the HCl concentration at the selected sampling locations.	Method 26 or 26A (40 CFR part 60, appendix A). If your control device is a wet scrubber or internal scrubbing system, you must use Method 26A.	(1) For semi-regenerative and cyclic regeneration units, conduct the test during the coke burn-off and catalyst rejuvenation cycle, but collect no samples during the first hour or the last 6 hours of the cycle (for semi-regenerative units) or during the first hour or the last 2 hours of the cycle (for cyclic regeneration units). For continuous regeneration units, the test should be conducted no sooner than 3 days after process unit or control system start up. (2) Determine and record the HCl concentration corrected to 3 percent oxygen (using Equation 1 of §63.1567) for each sampling location for each test run. (3) Determine and record the percent emission reduction, if applicable, using Equation 3 of §63.1567 for each test run. (4) Determine and record the average HCl concentration (corrected to 3 percent oxygen) and the average percent emission reduction, if applicable, for the overall source test from the recorded test run values.
2. Wet scrubber	a. Establish operating limit for pH level or alkalinity.	i. Data from continuous parameter monitoring systems.	Measure and record the pH or alkalinity of the water (or scrubbing liquid) exiting scrubber every 15 minutes during the entire period of the performance test. Determine and record the minimum hourly average pH or alkalinity level from the recorded values.
		ii. Alternative pH procedure in §63.1573 (b)(1).	Measure and record the pH of the water (or scrubbing liquid) exiting the scrubber during coke burn- off and catalyst rejuvenation using pH strips at least three times during each test run. Determine and record the average pH level for each test run. Determine and record the minimum test run average pH level.
		iii. Alternative alkalinity method in §63.1573(b)(2).	Measure and record the alkalinity of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation using discrete titration at least three times during each test run. Determine and record the average alkalinity level for each test run. Determine and record the minimum test run average alkalinity level.

For each new and existing catalytic reforming unit using	You shall	Using	According to these requirements
	b. Establish operating limit for liquid-to-gas ratio.	i. Data from continuous parameter monitoring systems.	Measure and record the gas flow rate entering or exiting the scrubber and the total water (or scrubbing liquid) flow rate entering the scrubber every 15 minutes during the entire period of the performance test. Determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate. Determine and record the minimum liquid-to-gas ratio from the recorded, paired values.
		ii. Alternative procedure for gas flow rate in §63.1573(a)(1).	Collect air flow rate monitoring data or determine the air flow rate using control room instruments every 15 minutes during the entire period of the initial performance test. Determine and record the hourly average rate of all the readings. Determine and record the maximum gas flow rate using Equation 1 of §63.1573.
4. Internal scrubbing system meeting HCl percent reduction standard.	a. Establish operating limit for pH level or alkalinity.	i. Data from continuous parameter monitoring system.	Measure and record the pH alkalinity of the water (or scrubbing liquid) exiting the internal scrubbing system every 15 minutes during the entire period of the performance test. Determine and record the minimum hourly average pH or alkalinity level from the recorded values.
		ii. Alternative pH method in §63.1573(b)(1).	Measure and in record pH of the water (or scrubbing liquid) exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation using pH strips at least three times during each test run. Determine and record the average pH level for each test run. Determine and record the minimum test run average pH level.
		iii. Alternative alkalinity method in §63.1573(b)(2).	Measure and record the alkalinity water (or scrubbing liquid) exiting the internal scrubbing system during coke burn- off and catalyst rejuvenation using discrete titration at least three times during each test run. Determine and record the average alkalinity level for each test run. Determine and record the minimum test run average alkalinity level.
	b. Establish operating limit for liquid-to-gas ratio.	Data from continuous parameter monitoring systems.	Measure and record the gas entering or exiting the internal scrubbing system and the total water (or scrubbing liquid) flow rate entering the internal scrubbing system every 15 minutes during the entire period of the performance test. Determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate. Determine and record the minimum liquid-to-gas ratio from the recorded, paired values.

Table 26 to Subpart UUU of Part 63—Initial Compliance With Inorganic HAP Emission Limits for Catalytic Reforming Units

As stated in §63.1567(b)(4), you shall meet each requirement in the following table that applies to you.

For	For the following emission limit	You have demonstrated initial compliance if
2. Each existing cyclic or continuous catalytic reforming unit and each new semi- regenerative, cyclic, or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.	Average emissions of HCl measured using Method 26 or 26A, as applicable, over the period of the performance test, are reduced by 97 percent or to a concentration less than or equal to 10 ppmv (dry basis) corrected to 3 percent oxygen.

Table 27 to Subpart UUU of Part 63—Continuous Compliance With Inorganic HAP Emission Limits for Catalytic Reforming Units

As stated in §63.1567(c)(1), you shall meet each requirement in the following table that applies to you.

For	For this emission limit	You shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by
2. Each existing cyclic or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.	Maintaining a 97 percent HCl control efficiency or an HCl concentration no more than 10 ppmv (dry basis), corrected to 3 percent oxygen.

Table 28 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Inorganic HAP Emissions From Catalytic Reforming Units

As stated in §63.1567(c)(1), you shall meet each requirement in the following table that applies to you.

For each new and existing catalytic reforming unit using this type of control device or system	For this operating limit	You shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by
1. Wet scrubber	a. The daily average pH or alkalinity of the water (or scrubbing liquid) exiting the scrubber must not fall below the level established during the performance test.	Collecting the hourly and daily average pH or alkalinity monitoring data according to 63.1572 \1\; and maintaining the daily average pH or alkalinity above the operating limit established during the performance test.
	b. The daily average liquid-to-gas ratio must not fall below the level established during the performance test.	Collecting the hourly average gas flow rate \2\ and total water (or scrubbing liquid) flow rate monitoring data according to 63.1572; and determining and recording the hourly average liquid-to-gas ratio; and determining and recording the daily average liquid-to- gas ratio; and maintaining the daily average liquid-to-gas ratio above the limit established during the performance test.
3. Internal scrubbing system meeting percent HCl reduction standard.	a. The daily average pH or alkalinity of the water (or scrubbing liquid) exiting the internal scrubbing system must not fall below the limit established during the performance test.	Collecting the hourly and daily average pH or alkalinity monitoring data according to 63.1572 \1\ and maintaining the daily average pH or alkalinity above the operating limit established during the performance test.

For each new and existing catalytic reforming unit using this type of control device or system	For this operating limit	You shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by
	b. The daily average liquid-to-gas ratio must not fall below the level established during the performance test.	Collecting the hourly average gas flow rate \2\ and total water (or scrubbing liquid) flow rate monitoring data according to 63.1572; and determining and recording the hourly average liquid-to-gas ratio; and determining and recording the daily average liquid-to- gas ratio; and maintaining the daily average liquid-to-gas ratio above the limit established during the performance test.
\1\ If applicable, you can use either alternative in §63.1573(b) instead of a continuous parameter monitoring system for pH or alkalinity if you used the alternative method in the initial performance test. \2\ If applicable, you can use the alternative in §63.1573(a)(1) instead of a continuous parameter monitoring system for the gas flow rate or cumulative volume of gas entering or exiting the system if you used the alternative method in the initial performance test.		

Table 29 to Subpart UUU of Part 63—HAP Emission Limits for Sulfur Recovery Units

As stated in §63.1568(a)(1), you shall meet each emission limitation in the following table that applies to you.

For	You shall meet this emission limit for each process vent
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of sulfur dioxide (SO_2) at zero percent excess air if you use an oxidation or reduction control system followed by incineration.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.

Table 30 to Subpart UUU of Part 63—Operating Limits for HAP Emissions From Sulfur Recovery Units

As stated in §63.1568(a)(2), you shall meet each operating limit in the following table that applies to you.

For	If use this type of control device	You shall meet this operating limit
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	Not applicable.	Not applicable.

Table 31 to Subpart UUU of Part 63—Continuous Monitoring Systems for HAP Emissions From Sulfur Recovery Units

As stated in §63.1568(b)(1), you shall meet each requirement in the following table that applies to you.

For	For this limit	You shall install and operate this continuous monitoring system
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of SO_2 (dry basis) at zero percent excess air for each exhaust stack. This system must include an oxygen monitor for correcting the data for excess air.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and oxygen (O_2) emissions. Calculate the reduced sulfur emissions as SO_2 (dry basis) at zero percent excess air. Exception: You can use an instrument having an air or SO_2 dilution and oxidation system to convert the reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO_2 instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.

Table 33 to Subpart UUU of Part 63—Initial Compliance With HAP Emission Limits for Sulfur Recovery Units

As stated in §63.1568(b)(5), you shall meet each requirement in the following table that applies to you.

For	For the following emission limit	You have demonstrated initial compliance if
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40CFR60.104(a)(2).	a. 250 ppmv (dry basis) SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and each 12- hour rolling average concentration of SO_2 emissions measured by the continuous emission monitoring system is less than or equal to 250 ppmv (dry basis) at zero percent excess air. As part of the Notification of Compliance Status, you must certify that your vent meets the SO_2 limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in 63.1572. You are not required to do another performance evaluation to demonstrate initial compliance.

For	For the following emission limit	You have demonstrated initial compliance if
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and each 12- hour rolling average concentration of reduced sulfur compounds measured by your continuous emission monitoring system is less than or equal to 300 ppmv, calculated as ppmv SO_2 (dry basis) at zero percent excess air. As part of the Notification of Compliance Status, you must certify that your vent meets the SO_2 limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in 63.1572. You are not required to do another performance evaluation to demonstrate initial compliance.

Table 34 to Subpart UUU of Part 63—Continuous Compliance With HAP Emission Limits for Sulfur Recovery Units

As stated in §63.1568(c)(1), you shall meet each requirement in the following table that applies to you.

For	For this emission limit	You shall demonstrate continuous compliance by
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Collecting the hourly average SO_2 monitoring data (dry basis, percent excess air) according to §63.1572; determining and recording each 12- hour rolling average concentration of SO_2; maintaining each 12- hour rolling average concentration of SO_2 at or below the applicable emission limitation; and reporting any 12- hour rolling average concentration of SO_2 greater than the applicable emission limitation in the compliance report required by §63.1575.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Collecting the hourly average reduced sulfur (and air or O_2 dilution and oxidation) monitoring data according to §63.1572; determining and recording each 12- hour rolling average concentration of reduced sulfur; maintaining each 12- hour rolling average concentration of reduced sulfur at or below the applicable emission limitation; and reporting any 12- hour rolling average concentration of reduced sulfur greater than the applicable emission limitation in the compliance report required by §63.1575.

Table 35 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for HAP Emissions From Sulfur Recovery Units

As stated in §63.1568(c)(1), you shall meet each requirement in the following table that applies to you.

For	For this operating limit	You shall demonstrate continuous compliance by
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in paragraph 40 CFR 60.104(a)(2).	Not applicable	Meeting the requirements of Table 34 of this subpart.

Table 36 to Subpart UUU of Part 63—Work Practice Standards for HAP Emissions From Bypass Lines

As stated in §63.1569(a)(1), you shall meet each work practice standard in the following table that applies to you.

Option	You shall meet one of these equipment standards
1. Option 1	Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to demonstrate, either continuously or at least every hour, whether flow is present in the by bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.

Table 37 to Subpart UUU of Part 63—Requirements for Performance Tests for Bypass Lines

As stated in §63.1569(b)(1), you shall meet each requirement in the following table that applies to you.

For this standard	You shall
1. Option 1: Install and operate a flow indicator, level recorder, or electronic valve position monitor.	Record during the performance test for each type of control device whether the flow indicator, level recorder, or electronic valve position monitor was operating and whether flow was detected at any time during each hour of level the three runs comprising the performance test.

Table 38 to Subpart UUU of Part 63—Initial Compliance With Work Practice Standards for HAP Emissions from Bypass Lines

As stated in §63.1569(b)(2), you shall meet each requirement in the following table that applies to you.

Option	For this work practice standard	You have demonstrated initial compliance if
1. Each new or existing bypass line associated with a catalytic cracking unit, catalytic reforming unit, or sulfur recovery unit.	a. Option 1: Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to demonstrate, either continuously or at least every hour, whether flow is present in bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.	The installed equipment operates properly during each run of the performance test and no flow is present in the line during the test.

Table 39 to Subpart UUU of Part 63—Continuous Compliance With Work Practice Standards for HAP Emissions From Bypass Lines

As stated in §63.1569(c)(1), you shall meet each requirement in the following table that applies to you.

If you elect this standard	You shall demonstrate continuous compliance by
1. Option 1: Flow indicator, level recorder, or electronic valve position monitor.	Monitoring and recording on a continuous basis or at least every hour whether flow is present in the bypass line; visually inspecting the device at least once every hour if the device is not equipped with a recording system that provides a continuous record; and recording whether the device is operating properly and whether flow is present in the bypass line.
5. Option 1, 2, 3, or 4	Recording and reporting the time and duration of any bypass.

Table 40 to Subpart UUU of Part 63—Requirements for Installation, Operation, and Maintenance of Continuous Opacity Monitoring Systems and Continuous Emission Monitoring Systems

As stated in §63.1572(a)(1) and (b)(1), you shall meet each requirement in the following table that applies to you.

This type of continuous opacity or emission monitoring system	Must meet these requirements
1. Continuous opacity monitoring system	Performance specification 1 (40 CFR part 60, appendix B).
2. CO continuous emission monitoring system.	Performance specification 4 (40 CFR part 60, appendix B); span value of 1,000 ppm; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly.
3. CO continuous emission monitoring system used to demonstrate emissions average under 50 ppm (dry basis).	Performance specification 4 (40 CFR part 60, appendix B); and span value of 100 ppm.
4. SO_2 continuous emission monitoring system for sulfur recovery unit with oxidation control system or reduction control system; this monitor must include an O_2 monitor for correcting the data for excess air.	Performance specification 2 (40 CFR part 60, appendix B); span value of 500 ppm SO_2; use Methods 6 or 6C and 3A or 3B (40 CFR part 60, appendix A) for certifying O_2 monitor; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly.
5. Reduced sulfur and O_2 continuous emission monitoring system for sulfur recovery unit with reduction control system not followed by incineration; this monitor must include an O_2 monitor for correcting the data for excess air unless exempted.	Performance specification 5 (40 CFR part 60, appendix B), except calibration drift specification is 2.5 percent of the span value instead of 5 percent; 450 ppm reduced sulfur; use Methods 15 or 15A and 3A or 3B (40 CFR part 60, appendix A) for certifying O_2 monitor; if Method 3A or 3B yields O_2 concentrations below 0.25 percent during the performance evaluation, the O_2 concentration can be assumed to be zero and the O_2 monitor is not required; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.
6. Instrument with an air or O_2 dilution and oxidation system to convert reduced sulfur to SO_2 for continuously monitoring the concentration of SO_2 instead of reduced sulfur monitor and O_2 monitor.	Performance specification 5 (40 CFR part 60, appendix B); span value of 375 ppm SO_2; use Methods 15 or 15A and 3A or 3B for certifying O_2 monitor; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.

This type of continuous opacity or emission monitoring system	Must meet these requirements
7. TRS continuous emission monitoring system for sulfur recovery unit; this monitor must include an O_2 monitor for correcting the data for excess air. 8. O_2 monitor for oxygen concentration.	Performance specification 5 (40 CFR part 60, appendix B). If necessary due to interferences, locate the oxygen sensor prior to the introduction of any outside gas stream; performance specification 3 (40 CFR part 60, appendix B; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.

Table 42 to Subpart UUU of Part 63—Additional Information for Initial Notification of Compliance Status

As stated in §63.1574(d), you shall meet each requirement in the following table that applies to you.

For	You shall provide this additional information
1. Identification of affected sources and emission points.	Nature, size, design, method of operation, operating design capacity of each affected source; identify each emission point for each HAP; identify any affected source or vent associated with an affected source not subject to the requirements of subpart UUU.
2. Initial compliance	Identification of each emission limitation you will meet for each affected source, including any option you select (i.e., NSPS, PM or Ni, flare, percent reduction, concentration, options for bypass lines); if applicable, certification that you have already conducted a performance test to demonstrate initial compliance with the NSPS for an affected source; certification that the vents meet the applicable emission limit and the continuous opacity or that the emission monitoring system meets the applicable performance specification; if applicable, certification that you have installed and verified the operational status of equipment by your compliance date for each bypass line that meets the requirements of Option 2, 3, or 4 in §63.1569 and what equipment you installed; identification of the operating limit for each affected source, including supporting documentation; if your affected source is subject to the NSPS, certification of compliance with NSPS emission limitations and performance specifications; a brief description of performance test conditions (capacity, feed quality, catalyst, etc.); an engineering assessment (if applicable); and if applicable, the flare design (e.g., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the Method 22 test.
3. Continuous compliance	Each monitoring option you elect; and identification of any unit or vent for which monitoring is not required; and the definition of ``operating day.'' (This definition, subject to approval by the applicable permitting authority, must specify the times at which a 24-hr operating day begins and ends.)

Table 43 to Subpart UUU of Part 63—Requirements for Reports

As stated in §63.1575(a), you shall meet each requirement in the following table that applies to you.

You must submit a(n)	The report must contain	You shall submit the report
1. Compliance report	If there are not deviations from any emission limitation or work practice standard that applies to you, a statement that there were no deviations from the standards during the reporting period and that no continuous opacity monitoring system or continuous emission monitoring system was inoperative, inactive, out-of-control, repaired, or adjusted; and if you have a deviation from any emission limitation or work practice standard during the reporting period, the report must contain the information in §63.1575(d) or (e)	Semiannually according to the requirements in §63.1575(b).

SECTION E.11 Nitrogen Oxides Budget Trading Program - NOx Budget Permit for NOx Budget Units Under 326 IAC 10-4-1(a)

ORIS Code: 52130

NO_x Budget Source [326 IAC 2-7-5(15)]

(w) A portion of No. 1 Stanolind Power Station (SPS) constructed in 1928 and identified as Unit ID 501. The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas, are NO_x budget units:

Boiler Identification	Installation Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
#3 Boiler (also known as 1SPS13)	1928	265	501-01	none
#4 Boiler (also known as 1SPS14)	1928	265	501-01	none
#5 Boiler (also known as 1SPS15)	1928	265	501-02	none
#6 Boiler (also known as 1SPS16)	1928	265	501-02	none
#7 Boiler (also known as 1SPS17)	1928	265	501-02	none

(x) A portion of No. 3 Stanolind Power Station (SPS), constructed as listed below and identified as Unit ID 503. The following boilers, all of which burn refinery gas, natural gas, or liquified petroleum gas, are NO_x budget units:

Boiler Identification	Installation Date	Maximum Heat Input Capacity (mmBTU/hr)	Stack Exhausted To	Emission Controls
#1 Boiler (also known as 3SPS31)	1948	575	503-01	low-NO_x burners, an induced flue gas recirculation (IFGR) system, and an over fired air (OFA) system
#2 Boiler (also known as 3SPS32)	1948	575	503-02	
#3 Boiler (also known as 3SPS33)	1951	575	503-03	
#4 Boiler (also known as 3SPS34)	1951	575	503-04	
#6 Boiler (also known as 3SPS36)	1953	575	503-05	

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

E.11.1 Automatic Incorporation of Definitions [326 IAC 10-4-7(e)]

This NO_x budget permit is deemed to incorporate automatically the definitions of terms under 326 IAC 10-4-2.

E.11.2 Standard Permit Requirements [326 IAC 10-4-4(a)]

(a) The owners and operators of the NO_x budget source and each NO_x budget unit shall operate each unit in compliance with this NO_x budget permit.

(b) The NO_x budget units subject to this NO_x budget permit include the following:

(1) At No. 1 Stanolind Power Station (SPS) and Boiler Water Treating Plant, #3 Boiler, #4 Boiler, #5 Boiler, #6 Boiler, and #7 Boiler; and

(2) At No. 3 Stanolind Power Station (SPS) and Boiler Water Treating Plant, #1 Boiler, #2 Boiler, #3 Boiler, #4 Boiler, and #6 Boiler.

E.11.3 Monitoring Requirements [326 IAC 10-4-4(b)]

(a) The owners and operators and, to the extent applicable, the NO_x authorized account representative of the NO_x budget source and each NO_x budget unit at the source shall comply with the monitoring requirements of 40 CFR 75 and 326 IAC 10-4-12.

(b) The emissions measurements recorded and reported in accordance with 40 CFR 75 and 326 IAC 10-4-12 shall be used to determine compliance by each unit with the NO_x budget emissions limitation under 326 IAC 10-4-4(c) and Condition E.11.4, Nitrogen Oxides Requirements.

E.11.4 Nitrogen Oxides Requirements [326 IAC 10-4-4(c)]

(a) The owners and operators of the NO_x budget source and each NO_x budget unit at the source shall hold NO_x allowances available for compliance deductions under 326 IAC 10-4-10(j), as of the NO_x allowance transfer deadline, in each unit's compliance account and the source's overdraft account in an amount:

(1) Not less than the total NO_x emissions for the ozone control period from the unit, as determined in accordance with 40 CFR 75 and 326 IAC 10-4-12;

(2) To account for excess emissions for a prior ozone control period under 326 IAC 10-4-10(k)(5); or

(3) To account for withdrawal from the NO_x budget trading program, or a change in regulatory status of a NO_x budget opt-in unit.

(b) Each ton of NO_x emitted in excess of the NO_x budget emissions limitation shall constitute a separate violation of the Clean Air Act (CAA) and 326 IAC 10-4.

(c) Each NO_x budget unit shall be subject to the requirements under (a) above and 326 IAC 10-4-4(c)(1) starting on May 31, 2004.

(d) NO_x allowances shall be held in, deducted from, or transferred among NO_x allowance tracking system accounts in accordance with 326 IAC 10-4-9 through 11, 326 IAC 10-4-13, and 326 IAC 10-4-14.

(e) A NO_x allowance shall not be deducted, in order to comply with the requirements under (a) above and 326 IAC 10-4-4(c)(1), for an ozone control period in a year prior to the year for which the NO_x allowance was allocated.

(f) A NO_x allowance allocated under the NO_x budget trading program is a limited authorization to emit one (1) ton of NO_x in accordance with the NO_x budget trading program. No provision of the NO_x budget trading program, the NO_x budget permit application, the NO_x budget permit, or an exemption under 326 IAC 10-4-3 and no provision of law shall be construed to limit the authority of the U.S. EPA or IDEM, OAQ to terminate or limit the authorization.

(g) A NO_x allowance allocated under the NO_x budget trading program does not constitute a property right.

(h) Upon recordation by the U.S. EPA under 326 IAC 10-4-10, 326 IAC 10-4-11, or 326 IAC 10-4-13, every allocation, transfer, or deduction of a NO_x allowance to or from each NO_x budget unit's compliance account or the overdraft account of the source where the unit is

located is deemed to amend automatically, and become a part of, this NO_x budget permit of the NO_x budget unit by operation of law without any further review.

E.11.5 Excess Emissions Requirements [326 IAC 10-4-4(d)]

The owners and operators of each NO_x budget unit that has excess emissions in any ozone control period shall do the following:

(a) Surrender the NO_x allowances required for deduction under 326 IAC 10-4-10(k)(5).

(b) Pay any fine, penalty, or assessment or comply with any other remedy imposed under 326 IAC 10-4-10(k)(7).

E.11.6 Record Keeping Requirements [326 IAC 10-4-4(e)] [326 IAC 2-7-5(3)]

Unless otherwise provided, the owners and operators of the NO_x budget source and each NO_x budget unit at the source shall keep, either on site at the source or at a central location within Indiana for those owners or operators with unattended sources, each of the following documents for a period of five (5) years:

(a) The account certificate of representation for the NO_x authorized account representative for the source and each NO_x budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 326 IAC 10-4-6(h). The certificate and documents shall be retained either on site at the source or at a central location within Indiana for those owners or operators with unattended sources beyond the five (5) year period until the documents are superseded because of the submission of a new account certificate of representation changing the NO_x authorized account representative.

(b) All emissions monitoring information, in accordance with 40 CFR 75 and 326 IAC 10-4-12, provided that to the extent that 40 CFR 75 and 326 IAC 10-4-12 provide for a three (3) year period for record keeping, the three (3) year period shall apply.

(c) Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_x budget trading program.

(d) Copies of all documents used to complete a NO_x budget permit application and any other submission under the NO_x budget trading program or to demonstrate compliance with the requirements of the NO_x budget trading program.

This period may be extended for cause, at any time prior to the end of five (5) years, in writing by IDEM, OAQ or the U.S. EPA. Records retained at a central location within Indiana shall be available immediately at the location and submitted to IDEM, OAQ or U.S. EPA within three (3) business days following receipt of a written request. Nothing in 326 IAC 10-4-4(e) shall alter the record retention requirements for a source under 40 CFR 75. Unless otherwise provided, all records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

E.11.7 Reporting Requirements [326 IAC 10-4-4(e)]

(a) The NO_x authorized account representative of the NO_x budget source and each NO_x budget unit at the source shall submit the reports and compliance certifications required under the NO_x budget trading program, including those under 326 IAC 10-4-8, 326 IAC 10-4-12, or 326 IAC 10-4-13.

(b) Pursuant to 326 IAC 10-4-6(e), each submission shall include the following certification statement by the NO_x authorized account representative: "I am authorized to make this submission on behalf of the owners and operators of the NO_x budget sources or NO_x

budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(c) Where 326 IAC 10-4 requires a submission to IDEM, OAQ, the NO_x authorized account representative shall submit required information to:

Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204

(d) Where 326 IAC 10-4 requires a submission to U.S. EPA, the NO_x authorized account representative shall submit required information to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue, NW
Mail Code 6204N
Washington, DC 20460

E.11.8 Liability [326 IAC 10-4-4(f)]

The owners and operators of each NO_x budget source shall be liable as follows:

(a) Any person who knowingly violates any requirement or prohibition of the NO_x budget trading program, a NO_x budget permit, or an exemption under 326 IAC 10-4-3 shall be subject to enforcement pursuant to applicable state or federal law.

(b) Any person who knowingly makes a false material statement in any record, submission, or report under the NO_x budget trading program shall be subject to criminal enforcement pursuant to the applicable state or federal law.

(c) No permit revision shall excuse any violation of the requirements of the NO_x budget trading program that occurs prior to the date that the revision takes effect.

(d) Each NO_x budget source and each NO_x budget unit shall meet the requirements of the NO_x budget trading program.

(e) Any provision of the NO_x budget trading program that applies to a NO_x budget source, including a provision applicable to the NO_x authorized account representative of a NO_x budget source, shall also apply to the owners and operators of the source and of the NO_x budget units at the source.

(f) Any provision of the NO_x budget trading program that applies to a NO_x budget unit, including a provision applicable to the NO_x authorized account representative of a NO_x budget unit, shall also apply to the owners and operators of the unit. Except with regard to the requirements applicable to units with a common stack under 40 CFR 75 and 326 IAC 10-4-12, the owners and operators and the NO_x authorized account representative of one (1) NO_x budget unit shall not be liable for any violation by any other NO_x budget unit

of which they are not owners or operators or the NO_x authorized account representative and that is located at a source of which they are not owners or operators or the NO_x authorized account representative.

E.11.9 Effect on Other Authorities [326 IAC 10-4-4(g)]

No provision of the NO_x budget trading program, a NO_x budget permit application, a NO_x budget permit, or an exemption under 326 IAC 10-4-3 shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the NO_x authorized account representative of a NO_x budget source or NO_x budget unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the CAA.

SECTION E.12 40 CFR Part 63, Subpart Y – National Emission Standards for Marine Tank Vessel Loading Operations

E.12.1 NESHAP Subpart Y Requirements [40 CFR Part 63, Subpart Y] [326 IAC 20-17]

Pursuant to 40 CFR Part 63.560(a)(2), (a)(3), and (b)(2), the Permittee shall comply with the following applicable provisions of 40 CFR Part 63, Subpart Y, which are incorporated by reference as 326 IAC 20-17, for the Marine Dock Facility:

Subpart Y—National Emission Standards for Marine Tank Vessel Loading Operations

§63.560 Applicability and designation of affected source.

(a) *Maximum achievable control technology (MACT) standards.* (1) The provisions of this subpart pertaining to the MACT standards in §63.562(b) and (d) of this subpart are applicable to existing and new sources with emissions of 10 or 25 tons, as that term is defined in §63.561, except as specified in paragraph (d) of this section, and are applicable to new sources with emissions less than 10 and 25 tons, as that term is defined in §63.561, except as specified in paragraph (d) of this section.

(2) Existing sources with emissions less than 10 and 25 tons are not subject to the emissions standards in §63.562(b) and (d).

(3) The recordkeeping requirements of §63.567(j)(4) and the emission estimation requirements of §63.565(l) apply to existing sources with emissions less than 10 and 25 tons.

(b) *Reasonably available control technology (RACT) standards.* (1) The provisions of this subpart pertaining to RACT standards in §63.562(c) and (d) of this subpart are applicable to sources with throughput of 10 M barrels or 200 M barrels, as that term is defined in §63.561, except as specified in paragraph (d) of this section.

(2) Sources with throughput less than 10 M barrels and 200 M barrels, as that term is defined in §63.561, are not subject to the emissions standards in §63.562(c) and (d).

(d) *Exemptions from MACT and RACT standards.* (1) This subpart does not apply to emissions resulting from marine tank vessel loading operations, as that term is defined in §63.561, of commodities with vapor pressures less than 10.3 kilopascals (kPa) (1.5 pounds per square inch, absolute) (psia) at standard conditions, 20 °C and 760 millimeters Hg (mm Hg).

(2) The provisions of this subpart pertaining to the MACT standards in §63.562(b)(2), (3) and (4) and to the RACT standards in §63.562(c)(3) and (4) do not apply to marine tank vessel loading operations where emissions are reduced by using a vapor balancing system, as that term is defined in §63.561. The provisions pertaining to the vapor collection system, ship-to-shore compatibility, and vapor tightness of marine tank vessels in §63.562(b)(1) and (c)(2) do apply.

(3) The provisions of this subpart pertaining to the MACT standards in §63.562(b)(2), (3), and (4) do not apply to marine tank vessel loading operations that are contiguous with refinery operations at sources subject to and complying with subpart CC of this part, National Emissions Standards for Organic Hazardous Air Pollutants from Petroleum Refineries, except to the extent that any such provisions of this subpart are made applicable by subpart CC of this part.

(4) The provisions of this subpart pertaining to the MACT standards in §63.562(b) and (d) do not apply to benzene emissions from marine tank vessel loading operations that are subject to and complying with 40 CFR Part 61, Subpart BB, National Emissions Standards for Benzene Emissions from Benzene Transfer Operations, except that benzene emissions or other HAP emissions (i.e., nonbenzene HAP emissions) from marine tank vessel loading operations that are not subject to subpart BB are subject to the provisions of this subpart.

(5) The provisions of this subpart pertaining to the MACT standards in §63.562(b) and (d) do not apply to marine tank vessel loading operations at loading berths that only transfer liquids containing organic HAP as impurities, as that term is defined in §63.561.

(6) The provisions of this subpart do not apply to marine tank vessel loading operations at existing offshore loading terminals, as that term is defined in §63.561.

(7) The provisions of this subpart do not apply to ballasting operations, as that term is defined in §63.561.

(e) *Compliance dates—(1) MACT standards compliance dates, except the Valdez Marine Terminal (VMT) source.*

(iii) A source with emissions less than 10 and 25 tons that increases its emissions subsequent to September 20, 1999 such that it becomes a source with emissions of 10 or 25 tons shall comply with the provisions of this subpart pertaining to the MACT standards in §63.562(b) within 3 years following the exceedance of the threshold level.

(2) *RACT standards compliance dates, except the VMT source.*

(iv) A source with throughput less than 10 M barrels and 200 M barrels that increases its throughput subsequent to September 21, 1998 such that it becomes a source with throughput of 10 M barrels or 200 M barrels shall comply with the provisions of this subpart pertaining to the RACT standards in §63.562(c) within 3 years following the exceedance of the threshold levels.

(v) A source with throughput of 10 M barrels or 200 M barrels may apply for approval from the Administrator for an extension of the compliance date of up to 1 year if it can demonstrate that the additional time is necessary for installation of the control device.

§63.565 Test methods and procedures.

(l) *Emission estimation procedures.* For sources with emissions less than 10 or 25 tons and sources with emissions of 10 or 25 tons, the owner or operator shall calculate an annual estimate of HAP emissions, excluding commodities exempted by §63.560(d), from marine tank vessel loading operations. Emission estimates and emission factors shall be based on test data, or if test data is not available, shall be based on measurement or estimating techniques generally accepted in industry practice for operating conditions at the source.

§63.566 Construction and reconstruction.

(a) The owner or operator of an affected source shall fulfill all requirements for construction or reconstruction of a source in §63.5 of subpart A of this part in accordance with the provisions for applicability of subpart A to this subpart in Table 1 of §63.560 and construction or reconstruction requirements in this section.

(b)(1) *Application for approval of construction or reconstruction.* The provisions of this paragraph and §63.5(d)(1)(ii) and (iii), (2), (3), and (4) of subpart A implement section 112(i)(1) of the Act.

(2) *General application requirements.* An owner or operator who is subject to the requirements of §63.5(b)(3) of subpart A shall submit to the Administrator an application for approval of the construction of a new source, the reconstruction of a source, or the reconstruction of a source not subject to the emissions standards in §63.562 such that the source becomes an affected source. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of §63.567(b)(3). The owner or operator may submit the application for approval well in advance of the date construction or reconstruction is planned to commence in order to ensure a timely review by the Administrator and that the planned commencement date will not be delayed.

(c) *Approval of construction or reconstruction based on prior State preconstruction review.* The owner or operator shall submit to the Administrator the request for approval of construction or reconstruction under this paragraph and §63.5(f)(1) of subpart A of this part no later than the application deadline specified in paragraph (b)(2) of this section. The owner or operator shall include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in §63.5(e) of subpart A of this part. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction.

§63.567 Recordkeeping and reporting requirements.

(b) Notification requirements.

(1) Applicability. If a source that otherwise would not be subject to the emissions standards subsequently increases its HAP emissions calculated on a 24-month annual average basis after September 19, 1997 or increases its annual HAP emissions after September 20, 1999 or subsequently increases its gasoline or crude loading throughput calculated on a 24-month annual average basis after September 19, 1996 or increases its gasoline or crude loading annual throughput after September 21, 1998 such that the source becomes subject to the emissions standards, such source shall be subject to the notification requirements of §63.9 of subpart A of this part and the notification requirements of this paragraph.

(4) Initial notification requirements for constructed/reconstructed sources. After the effective date of these standards, whether or not an approved permit program is effective in the State in which a source subject to these standards is (or would be) located, an owner or operator subject to the notification requirements of §63.5 of subpart A of this part and §63.566 of this subpart who intends to construct a new source subject to these standards, reconstruct a source subject to these standards, or reconstruct a source such that it becomes subject to these standards, shall comply with paragraphs (b)(4)(i), (ii), (iii), and (iv) of this section.

(i) Notify the Administrator in writing of the intended construction or reconstruction. The notification shall be submitted as soon as practicable before the construction or reconstruction is planned to commence. The notification shall include all the information required for an application for approval of construction or reconstruction as specified in §63.5 of subpart A of this part. The application for approval of construction or reconstruction may be used to fulfill the requirements of this paragraph.

(ii) Submit a notification of the date when construction or reconstruction was commenced, delivered or postmarked not later than 30 days after such date, if construction was commenced after the effective date.

(iii) Submit a notification of the anticipated date of startup of the source, delivered or postmarked not more than 60 days nor less than 30 days before such date;

(iv) Submit a notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(j) Emission estimation reporting and recordkeeping procedures.

(4) Owners or operators of marine tank vessel loading operations specified in §63.560(a)(3) shall retain records of the emissions estimates determined in §65.565(l) and records of their actual throughputs by commodity, for 5 years.

SECTION E.13 40 CFR Part 60, Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

E.13.1 General Provisions Relating to NSPS Subpart GGG [326 IAC 12] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for each compressor, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service, except when otherwise specified in 40 CFR Part 60, Subpart GGG.

E.13.2 NSPS Requirements for Subpart GGG [326 IAC 12] [40 CFR Part 60, Subpart GGG]

Pursuant to 40 CFR 60.590, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart GGG, which are incorporated by reference as 326 IAC 12, for the emission units listed in Condition E.13.1, as specified below:

Subpart GGG—Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

§60.590 Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities in petroleum refineries.

(2) A compressor is an affected facility.

(3) The group of all the equipment (defined in §60.591) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction or modification after January 4, 1983, is subject to the requirements of this subpart.

(c) Addition or replacement of equipment (defined in §60.591) for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d) Facilities subject to subpart VV or subpart KKK of 40 CFR part 60 are excluded from this subpart.

§ 60.591 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the act, in subpart A of part 60, or in subpart VV of part 60, and the following terms shall have the specific meanings given them.

Alaskan North Slope means the approximately 69,000 square mile area extending from the Brooks Range to the Arctic Ocean.

Equipment means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service. For the purposes of recordkeeping and reporting only, compressors are considered equipment.

In hydrogen service means that a compressor contains a process fluid that meets the conditions specified in §60.593(b).

In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in §60.593(c).

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum refinery means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through the distillation of petroleum, or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

Process unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

§60.592 Standards.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of §§60.482–1 to 60.482–10 as soon as practicable, but no later than 180 days after initial startup.

(b) An owner or operator may elect to comply with the requirements of §§60.483–1 and 60.483–2.

(c) An owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of §60.484.

(d) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §60.485 except as provided in §60.593.

(e) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §§60.486 and 60.487.

§60.593 Exceptions.

(a) Each owner or operator subject to the provisions of this subpart may comply with the following exceptions to the provisions of subpart VV.

(b)(1) Compressors in hydrogen service are exempt from the requirements of §60.592 if an owner or operator demonstrates that a compressor is in hydrogen service.

(2) Each compressor is presumed not be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E260–73, 91, or 96, E168–67, 77, or 92, or E169–63, 77, or 93 (incorporated by reference as specified in §60.17) shall be used.

(3)(i) An owner or operator may use engineering judgment rather than procedures in paragraph (b)(2) of this section to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in paragraph (b)(2) shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in paragraph (b)(2).

(c) Any existing reciprocating compressor that becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482 (a), (b), (c), (d), (e), and (h) provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of §60.482 (a), (b), (c), (d), (e), and (h).

(d) An owner or operator may use the following provision in addition to §60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86–78, 82, 90, 95, or 96 (incorporated by reference as specified in §60.18).

(e) Pumps in light liquid service and valves in gas/vapor and light liquid service within a process unit that is located in the Alaskan North Slope are exempt from the requirements of §60.482–2 and §60.482–7.

E.13.3 Deadlines Relating to the Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries [40 CFR Part 60, Subpart GGG]

The Permittee shall comply with the following requirements by the dates listed for valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges and/or other connectors in VOC service:

Requirement	Rule Citations	Applicable To	Deadline
Notification of the Date Construction (or Reconstruction) is Commenced	40 CFR 60.7(a)(1)	Each affected facility	Within 30 days after commencement of construction
Notification of the Actual Date of Initial Startup	40 CFR 60.7(a)(3)	Each affected facility	Within 15 days after date of initial startup
Notification of any Physical or Operational Change	40 CFR 60.7(a)(4)	Physical or operational changes to existing affected facilities which may increase the emission rate of any pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e).	60 days or more prior to commencement of change or as soon as practicable
Semiannual Compliance Reports	40 CFR 60.592(e) 40 CFR 60.487(a) 40 CFR 60.487(b)	Each affected facility	Initial report shall be submitted 6 months after date of initial startup or in the next semi-annual report submitted for the existing equipment at the refinery after startup of the new equipment. Subsequent reports shall be submitted no later than 60 days after the end of each 6-month period following the first report or with the semi-annual report submitted for the existing equipment at the refinery.
Demonstrate Initial Compliance	40 CFR 60.592(a) 40 CFR 60.482-1(a)	Each affected facility	Within 180-days of initial startup

SECTION E.14 40 CFR Part 63, Subpart DD – National Emission Standards for Hazardous Air Pollutants from Off-site Waste and Recovery Operations

E.14.1 NESHAP Subpart DD Requirements [40 CFR Part 63, Subpart DD] [326IAC 20-23]

Pursuant to 40 CFR Part 63.680(d), the Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart DD, which are incorporated by reference as 326 IAC 20-23-1 for wastewater received by the wastewater treatment facility.

Subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations

§63.680 Applicability and designation of affected sources.

(a) The provisions of this subpart apply to the owner and operator of a plant site for which both of the conditions specified in paragraphs (a)(1) and (a)(2) of this section are applicable. If either one of these conditions does not apply to the plant site, then the owner and operator of the plant site are not subject to the provisions of this subpart.

(1) The plant site is a major source of hazardous air pollutant (HAP) emissions as defined in 40 CFR 63.2.

(2) At the plant site is located one or more of operations that receives off-site materials as specified in paragraph (b) of this section and the operations is one of the following waste management operations or recovery operations as specified in paragraphs (a)(2)(i) through (a)(2)(vi) of this section.

(i) A waste management operation that receives off-site material and the operation is regulated as a hazardous waste treatment, storage, and disposal facility (TSDF) under either 40 CFR part 264 or part 265.

(b) For the purpose of implementing this subpart, an off-site material is a material that meets all of the criteria specified in paragraph (b)(1) of this section but is not one of the materials specified in paragraph (b)(2) of this section.

(1) An off-site material is a material that meets all of the criteria specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section. If any one of these criteria do not apply to the material, then the material is not an off-site material subject to this subpart.

(i) The material is a waste, used oil, or used solvent as defined in §63.681 of this subpart;

(ii) The waste, used oil, or used solvent is not produced or generated within the plant site, but the material is delivered, transferred, or otherwise moved to the plant site from a location outside the boundaries of the plant site; and

(iii) The waste, used oil, or used solvent contains one or more of the hazardous air pollutants (HAP) listed in Table 1 of this subpart based on the composition of the material at the point-of-delivery, as defined in §63.681 of this subpart.

(2) For the purpose of implementing this subpart, the following materials are not off-site materials:

(i) Household waste as defined in 40 CFR 258.2.

(ii) Radioactive mixed waste managed in accordance with all applicable regulations under Atomic Energy Act and Nuclear Waste Policy Act authorities.

(iii) Waste that is generated as a result of implementing remedial activities required under the Resource Conservation and Recovery Act (RCRA) corrective action authorities (RCRA sections 3004(u), 3004(v), or 3008(h)), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorities, or similar Federal or State authorities.

(iv) Waste containing HAP that is generated by residential households (e.g., old paint, home garden pesticides) and subsequently is collected as a community service by government agencies, businesses, or other organizations for the purpose of promoting the proper disposal of this waste.

(v) Waste that is transferred from a chemical manufacturing plant or other facility for which both of the following conditions apply to the waste:

(A) The management of the waste at the facility is required either under part 63 subpart F—National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry or under another subpart in 40 CFR part 63 to meet the air emission control standards for process wastewater specified in 40 CFR 63.132 through 63.147; and

(B) The owner or operator of the facility from which the waste is transferred has complied with the provisions of 40 CFR 63.132(g)(1)(ii) and (g)(2).

(vi) Waste that is transferred from a chemical manufacturing plant, petroleum refinery, or coke by-product recovery plant which is subject to 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations, and for which both of the following conditions apply to the waste:

(A) The waste is generated at a facility that is not exempted under the provisions of 40 CFR 61.342(a) from meeting the air emission control standards of 40 CFR part 61, subpart FF; and

(B) The owner or operator of the facility from which the waste is transferred has complied with the provisions of 40 CFR 61.342(f)(2).

(vii) Ship ballast water pumped from a ship to an onshore wastewater treatment facility.

(viii) Hazardous waste that is stored for 10 days or less at a transfer facility in compliance with the provisions of 40 CFR 263.12.

(c) *Affected sources.* (1) *Off-site material management units.* For each operation specified in paragraphs (a)(2)(i) through (a)(2)(vi) of this section that is located at the plant site, the affected source is the entire group of off-site material management units associated with the operation. An off-site material management unit is a tank, container, surface impoundment, oil-water separator, organic-water separator, or transfer system used to manage off-site material. For the purpose of implementing the standards under this subpart, a unit that meets the definition of a tank or container but also is equipped with a vent that serves as a process vent for any of the processes listed in paragraphs (c)(2)(i) through (c)(2)(vi) of this section is not an off-site material management unit but instead is a process vent and is to be included in the appropriate affected source group under paragraph (c)(2) of this section. Examples of such a unit may include, but are not limited to, a distillate receiver vessel, a primary condenser, a bottoms receiver vessel, a surge control tank, a separator tank, and a hot well.

(d) *Facility-wide exemption*. The owner or operator of affected sources subject to this subpart is exempted from the requirements of §§63.682 through 63.699 of this subpart in situations when the total annual quantity of the HAP that is contained in the off-site material received at the plant site is less than 1 megagram per year. For a plant site to be exempted under the provisions of this paragraph (d), the owner or operator must meet the requirements in paragraphs (d)(1) through (d)(3) of this section.

(1) The owner or operator must prepare an initial determination of the total annual HAP quantity in the off-site material received at the plant site. This determination is based on the total quantity of the HAP listed in Table 1 of this subpart as determined at the point-of-delivery for each off-site material stream.

(2) The owner or operator must prepare a new determination whenever the extent of changes to the quantity or composition of the off-site material received at the plant site could cause the total annual HAP quantity in the off-site material received at the plant site to exceed the limit of 1 megagram per year.

(3) The owner or operator must maintain documentation to support the owner's or operator's determination of the total annual HAP quantity in the off-site material received at the plant site. This documentation must include the basis and data used for determining the HAP content of the off-site material.

(e) *Compliance dates.* (1) *Existing sources.* The owner or operator of an affected source that commenced construction or reconstruction before October 13, 1994, must achieve compliance with the provisions of this subpart on or before the date specified in paragraph (e)(1)(i) or (e)(1)(ii) of this section as applicable to the affected source.

(i) For an affected source that commenced construction or reconstruction before October 13, 1994 and receives off-site material for the first time before February 1, 2000, the owner or operator of this affected source must achieve compliance with the provisions of the subpart on or before February 1, 2000 unless an extension has been granted by the Administrator as provided in 40 CFR 63.6(i).

(ii) For an affected source that commenced construction or reconstruction before October 13, 1994, but receives off-site material for the first time on or after February 1, 2000, the owner or operator of the affected source must achieve compliance with the provisions of this subpart upon the first date that the affected source begins to manage off-site material.

Table 1 to Subpart DD of Part 63—List of Hazardous Air Pollutants (HAP) for Subpart DD

CAS No. a	Chemical name	fm 305
75-07-0	Acetaldehyde	1.000
75-05-8	Acetonitrile	0.989
98-86-2	Acetophenone	0.314
107-02-8	Acrolein	1.000
107-13-1	Acrylonitrile	0.999
107-05-1	Allyl chloride	1.000
71-43-2	Benzene (includes benzene in gasoline)	1.000
98-07-7	Benzotrichloride (isomers and mixture)	0.958
100-44-7	Benzyl chloride	1.000
92-52-4	Biphenyl	0.864
542-88-1	Bis(chloromethyl)ether b	0.999
75-25-2	Bromoform	0.998
106-99-0	1,3-Butadiene	1.000
75-15-0	Carbon disulfide	1.000
56-23-5	Carbon tetrachloride	1.000
43-58-1	Carbonyl sulfide	1.000
133-90-4	Chloramben	0.633
108-90-7	Chlorobenzene	1.000
67-66-3	Chloroform	1.000
107-30-2	Chloromethyl methyl ether b	1.000
126-99-8	Chloroprene	1.000
98-82-8	Cumene	1.000
94-75-7	2,4-D, salts and esters	0.167
334-88-3	Diazomethane c	0.999
132-64-9	Dibenzofurans	0.967
96-12-8	1,2-Dibromo-3-chloropropane	1.000
106-46-7	1,4-Dichlorobenzene(p)	1.000
107-06-2	Dichloroethane (Ethylene dichloride)	1.000
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl ether)	0.757
542-75-6	1,3-Dichloropropene	1.000
79-44-7	Dimethyl carbamoyl chloridec	0.150
64-67-5	Diethyl sulfate	0.003

CAS No. a	Chemical name	fm 305
77-78-1	Dimethyl sulfate	0.086
121-69-7	N,N-Dimethylaniline	0.001
51-28-5	2,4-Dinitrophenol	0.008
121-14-2	2,4-Dinitrotoluene	0.085
123-91-1	1,4-Dioxane (1,4-Diethyleneoxide)	0.869
106-89-8	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	0.939
106-88-7	1,2-Epoxybutane	1.000
140-88-5	Ethyl acrylate	1.000
100-41-4	Ethyl benzene	1.000
75-00-3	Ethyl chloride (Chloroethane)	1.000
106-93-4	Ethylene dibromide (Dibromoethane)	0.999
107-06-2	Ethylene dichloride (1,2-Dichloroethane)	1.000
151-56-4	Ethylene imine (Aziridine)	0.867
75-21-8	Ethylene oxide	1.000
75-34-3	Ethylidene dichloride (1,1-Dichloroethane)	1.000
	Glycol ethers d that have a Henry's Law constant value equal to or greater than 0.1 Y/X (1.8x10-6 atm/gm-mole/m\3\) at 25°C	(e)
118-74-1	Hexachlorobenzene	0.970
87-68-3	Hexachlorobutadiene	0.880
67-72-1	Hexachloroethane	0.499
110-54-3	Hexane	1.000
78-59-1	Isophorone	0.506
58-89-9	Lindane (all isomers)	1.000
67-56-1	Methanol	0.855
74-83-9	Methyl bromide (Bromomethane)	1.000
74-87-3	Methyl chloride (Choromethane)	1.000
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)	1.000
78-93-3	Methyl ethyl ketone (2-Butanone)	0.990
74-88-4	Methyl iodide (Iodomethane)	1.000
108-10-1	Methyl isobutyl ketone (Hexone)	0.980
624-83-9	Methyl isocyanate	1.000
80-62-6	Methyl methacrylate	0.916
1634-04-4	Methyl tert butyl ether	1.000
75-09-2	Methylene chloride (Dichloromethane)	1.000
91-20-3	Naphthalene	0.994
98-95-3	Nitrobenzene	0.394
79-46-9	2-Nitropropane	0.989
82-68-8	Pentachloronitrobenzene (Quintobenzene)	0.839
87-86-5	Pentachlorophenol	0.090
75-44-5	Phosgene c	1.000
123-38-6	Propionaldehyde	0.999
78-87-5	Propylene dichloride (1,2-Dichloropropane)	1.000
75-56-9	Propylene oxide	1.000
75-55-8	1,2-Propylenimine (2-Methyl aziridine)	0.945
100-42-5	Styrene	1.000
96-09-3	Styrene oxide	0.830
79-34-5	1,1,2,2-Tetrachloroethane	0.999
127-18-4	Tetrachloroethylene (Perchloroethylene)	1.000
108-88-3	Toluene	1.000
95-53-4	o-Toluidine	0.152
120-82-1	1,2,4-Trichlorobenzene	1.000

CAS No. a	Chemical name	fm 305
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1.000
79-00-5	1,1,2-Trichloroethane (Vinyl trichloride)	1.000
79-01-6	Trichloroethylene	1.000
95-95-4	2,4,5-Trichlorophenol	0.108
88-06-2	2,4,6-Trichlorophenol	0.132
121-44-8	Triethylamine	1.000
540-84-1	2,2,4-Trimethylpentane	1.000
108-05-4	Vinyl acetate	1.000
593-60-2	Vinyl bromide	1.000
75-01-4	Vinyl chloride	1.000
75-35-4	Vinylidene chloride (1,1-Dichloroethylene)	1.000
1330-20-7	Xylenes (isomers and mixture)	1.000
95-47-6	o-Xylenes	1.000
108-38-3	m-Xylenes	1.000
106-42-3	p-Xylenes	1.000

Notes:
fm 305 = Method 305 fraction measure factor.

a. CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.
b. Denotes a HAP that hydrolyzes quickly in water, but the hydrolysis products are also HAP chemicals.
c. Denotes a HAP that may react violently with water, exercise caustic is an expected analyte.
d. Denotes a HAP that hydrolyzes slowly in water.
e. The fm 305 factors for some of the more common glycol ethers can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

SECTION E.15 40 CFR Part 60, Subpart XX – Standards of Performance for Bulk Gasoline Terminals

E.15.1 General Provisions Relating to NSPS Subpart XX [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the Marketing Terminal, except when otherwise specified in 40 CFR Part 60, Subpart XX.

E.15.2 NSPS Requirements for Subpart XX [40 CFR Part 60, Subpart XX] [326 IAC 12]

Pursuant to 40 CFR 60.500, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart XX, which are incorporated by reference as 326 IAC 12, for the bulk truck loading facilities located at the Marketing Terminal as specified below:

Subpart XX—Standards of Performance for Bulk Gasoline Terminals

§60.500 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is the total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.

(b) Each facility under paragraph (a) of this section, the construction or modification of which is commenced after December 17, 1980, is subject to the provisions of this subpart.

(c) For purposes of this subpart, any replacement of components of an existing facility, described in paragraph (a) of this section, commenced before August 18, 1983 in order to comply with any emission standard adopted by a State or political subdivision thereof will not be considered a reconstruction under the provisions of 40 CFR 60.15.

Note: The intent of these standards is to minimize the emissions of VOC through the application of best demonstrated technologies (BDT). The numerical emission limits in this standard are expressed in terms of total organic compounds. This emission limit reflects the performance of BDT.

§60.502 Standard for Volatile Organic Compound (VOC) emissions from bulk gasoline terminals.

On and after the date on which §60.8(a) requires a performance test to be completed, the owner or operator of each bulk gasoline terminal containing an affected facility shall comply with the requirements of this section.

(a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.

(b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in paragraph (c) of this section.

(c) For each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.

(d) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.

(e) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

(1) The owner or operator shall obtain the vapor tightness documentation described in §60.505(b) for each gasoline tank truck which is to be loaded at the affected facility.

(2) The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility.

(3)(i) The owner or operator shall cross-check each tank identification number obtained in paragraph (e)(2) of this section with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded, unless either of the following conditions is maintained:

(A) If less than an average of one gasoline tank truck per month over the last 26 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed each quarter; or

(B) If less than an average of one gasoline tank truck per month over the last 52 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed semiannually.

(ii) If either the quarterly or semiannual cross-check provided in paragraphs (e)(3)(i) (A) through (B) of this section reveals that these conditions were not maintained, the source must return to biweekly monitoring until such time as these conditions are again met.

(4) The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the affected facility within 1 week of the documentation cross-check in paragraph (e)(3) of this section.

(5) The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained.

(6) Alternate procedures to those described in paragraphs (e)(1) through (5) of this section for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Administrator.

(f) The owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

(g) The owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.

(h) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d).

(i) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).

(j) Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

§60.503 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). The three-run requirement of §60.8(f) does not apply to this subpart.

(b) Immediately before the performance test required to determine compliance with §60.502 (b), (c), and (h), the owner or operator shall use Method 21 to monitor for leakage of vapor all potential sources in the

terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The owner or operator shall repair all leaks with readings of 10,000 ppm (as methane) or greater before conducting the performance test.

(c) The owner or operator shall determine compliance with the standards in §60.502 (b) and (c) as follows:

(1) The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

(2) If the vapor processing system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the vapor processor. If this does not occur under automatically controlled operations, the system shall be manually controlled.

(3) The emission rate (E) of total organic compounds shall be computed using the following equation:

$$E = K\sum_{i=1}^{n}\left(V_{esi}C_{ei}\right)/\left(L10^{6}\right)$$

where:

E=emission rate of total organic compounds, mg/liter of gasoline loaded.

V_{esi}=volume of air-vapor mixture exhausted at each interval “i”, scm.

C_{ei}=concentration of total organic compounds at each interval “i”, ppm.

L=total volume of gasoline loaded, liters.

n=number of testing intervals.

i=emission testing interval of 5 minutes.

K=density of calibration gas, 1.83×10^{6} for propane and 2.41×10^{6} for butane, mg/scm.

(4) The performance test shall be conducted in intervals of 5 minutes. For each interval “i”, readings from each measurement shall be recorded, and the volume exhausted (V_{esi}) and the corresponding average total organic compounds concentration (C_{ei}) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.

(5) The following methods shall be used to determine the volume (V_{esi}) air-vapor mixture exhausted at each interval:

(i) Method 2B shall be used for combustion vapor processing systems.

(ii) Method 2A shall be used for all other vapor processing systems.

(6) Method 25A or 25B shall be used for determining the total organic compounds concentration (C_{ei}) at each interval. The calibration gas shall be either propane or butane. The owner or operator may exclude the methane and ethane content in the exhaust vent by any method (e.g., Method 18) approved by the Administrator.

(7) To determine the volume (L) of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested, terminal records or readings from gasoline dispensing meters at each loading rack shall be used.

(d) The owner or operator shall determine compliance with the standard in §60.502(h) as follows:

(1) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ±2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.

(2) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.

§60.505 Reporting and recordkeeping.

(a) The tank truck vapor tightness documentation required under §60.502(e)(1) shall be kept on file at the terminal in a permanent form available for inspection.

(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:

(1) Test title: Gasoline Delivery Tank Pressure Test—EPA Reference Method 27.

(2) Tank owner and address.

(3) Tank identification number.

(4) Testing location.

(5) Date of test.

(6) Tester name and signature.

(7) Witnessing inspector, if any: Name, signature, and affiliation.

(8) Test results: Actual pressure change in 5 minutes, mm of water (average for 2 runs).

(c) A record of each monthly leak inspection required under §60.502(j) shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:

(1) Date of inspection.

(2) Findings (may indicate no leaks discovered; or location, nature, and severity of each leak).

(3) Leak determination method.

(4) Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 days).

(5) Inspector name and signature.

(d) The terminal owner or operator shall keep documentation of all notifications required under §60.502(e)(4) on file at the terminal for at least 2 years.

(e) As an alternative to keeping records at the terminal of each gasoline cargo tank test result as required in paragraphs (a), (c), and (d) of this section, an owner or operator may comply with the requirements in either paragraph (e)(1) or (2) of this section.

(1) An electronic copy of each record is instantly available at the terminal.

(i) The copy of each record in paragraph (e)(1) of this section is an exact duplicate image of the original paper record with certifying signatures.

(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (e)(1) of this section.

(2) For facilities that utilize a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (*e.g.,* via a card lock-out system), a copy of the documentation is made available (*e.g.,* via facsimile) for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame.

(i) The copy of each record in paragraph (e)(2) of this section is an exact duplicate image of the original paper record with certifying signatures.

(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (e)(2) of this section.

(f) The owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.

§60.506 Reconstruction.

For purposes of this subpart:

(a) The cost of the following frequently replaced components of the affected facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable entirely new facility” under §60.15: pump seals, loading arm gaskets and swivels, coupler gaskets, overfill sensor couplers and cables, flexible vapor hoses, and grounding cables and connectors.

(b) Under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in §60.506(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following December 17, 1980. For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

SECTION E.16 40 CFR Part 63, Subpart R – National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

E.16.1 NESHAP Subpart R Requirements [40 CFR Part 63, Subpart R]

Pursuant to 40 CFR Part 63, Subpart CC, the Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart R:

Subpart R—National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

§63.420 Applicability.

(i) A bulk gasoline terminal or pipeline breakout station with a Standard Industrial Classification code 2911 located within a contiguous area and under common control with a refinery complying with subpart CC, §§63.646, 63.648, 63.649, and 63.650 is not subject to subpart R standards, except as specified in subpart CC, §63.650.

§63.422 Standards: Loading racks.

(a) Each owner or operator of loading racks at a bulk gasoline terminal subject to the provisions of this subpart shall comply with the requirements in §60.502 of this chapter except for paragraphs (b), (c), and (j) of that section. For purposes of this section, the term “affected facility” used in §60.502 of this chapter means the loading racks that load gasoline cargo tanks at the bulk gasoline terminals subject to the provisions of this subpart.

(b) Emissions to the atmosphere from the vapor collection and processing systems due to the loading of gasoline cargo tanks shall not exceed 10 milligrams of total organic compounds per liter of gasoline loaded.

(c) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall comply with §60.502(e) of this chapter as follows:

(1) For the purposes of this section, the term “tank truck” as used in §60.502(e) of this chapter means “cargo tank.”

(2) Section 60.502(e)(5) of this chapter is changed to read: The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline cargo tank will not be reloaded at the facility until vapor tightness documentation for that gasoline cargo tank is obtained which documents that:

(i) The tank truck or railcar gasoline cargo tank meets the test requirements in §63.425(e), or the railcar gasoline cargo tank meets applicable test requirements in §63.425(i);

(ii) For each gasoline cargo tank failing the test in §63.425 (f) or (g) at the facility, the cargo tank either:

(A) Before repair work is performed on the cargo tank, meets the test requirements in §63.425 (g) or (h), or

(B) After repair work is performed on the cargo tank before or during the tests in §63.425 (g) or (h), subsequently passes the annual certification test described in §63.425(e).

§63.425 Test methods and procedures.

(a) Each owner or operator subject to the emission standard in §63.422(b) or 40 CFR 60.112b(a)(3)(ii) shall comply with the requirements in paragraphs (a)(1) and (2) of this section.

(1) Conduct a performance test on the vapor processing and collection systems according to either paragraph (a)(1)(i) or (ii) of this section.

(i) Use the test methods and procedures in 40 CFR 60.503 of this chapter, except a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 40 CFR 60.503(b), or

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(2) The performance test requirements of 40 CFR 60.503(c) do not apply to flares defined in §63.421 and meeting the flare requirements in §63.11(b). The owner or operator shall demonstrate that the flare and associated vapor collection system is in compliance with the requirements in §63.11(b) and 40 CFR 60.503(a), (b), and (d), respectively.

(b) For each performance test conducted under paragraph (a) of this section, the owner or operator shall determine a monitored operating parameter value for the vapor processing system using the following procedure:

(1) During the performance test, continuously record the operating parameter under §63.427(a);

(2) Determine an operating parameter value based on the parameter data monitored during the performance test, supplemented by engineering assessments and the manufacturer's recommendations; and

(3) Provide for the Administrator's approval the rationale for the selected operating parameter value, and monitoring frequency and averaging time, including data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the emission standard in §63.422(b) or §60.112b(a)(3)(ii) of this chapter.

(c) For performance tests performed after the initial test, the owner or operator shall document the reasons for any change in the operating parameter value since the previous performance test.

(e) *Annual certification test.* The annual certification test for gasoline cargo tanks shall consist of the following test methods and procedures:

(1) Method 27, appendix A, 40 CFR part 60. Conduct the test using a time period (t) for the pressure and vacuum tests of 5 minutes. The initial pressure (P_i) for the pressure test shall be 460 mm H_2 O (18 in. H_2 O), gauge. The initial vacuum (V_i) for the vacuum test shall be 150 mm H_2 O (6 in. H_2 O), gauge. The maximum allowable pressure and vacuum changes (Δ p, Δ v) are as shown in the second column of Table 2 of this paragraph.

Table 2_Allowable Cargo Tank Test Pressure or Vacuum Change

Cargo tank or compartment capacity, liters (gal)	**Annual certification allowable pressure or vacuum change (Δ p, Δ v) in 5 minutes, mm H2O (in. H2 O)**	**Allowable pressure change (Δ p) in 5 minutes at any time, mm H2O (in. H2O)**
9,464 or more (2,500 or more)	25 (1.0)	64 (2.5)
9,463 to 5,678 (2,499 to 1,500)	38 (1.5)	76 (3.0)
5,679 to 3,785 (1,499 to 1,000)	51 (2.0)	89 (3.5)
3,782 or less (999 or less)	64 (2.5)	102 (4.0)

(2) Pressure test of the cargo tank's internal vapor valve as follows:

(i) After completing the tests under paragraph (e)(1) of this section, use the procedures in Method 27 to repressurize the tank to 460 mm H_2 O (18 in. H_2 O), gauge. Close the tank's internal vapor valve(s), thereby isolating the vapor return line and manifold from the tank.

(ii) Relieve the pressure in the vapor return line to atmospheric pressure, then reseal the line. After 5 minutes, record the gauge pressure in the vapor return line and manifold. The maximum allowable 5-minute pressure increase is 130 mm H_2 O (5 in. H_2 O).

(f) *Leak detection test.* The leak detection test shall be performed using Method 21, appendix A, 40 CFR part 60, except omit section 4.3.2 of Method 21. A vapor-tight gasoline cargo tank shall have no leaks at any time when tested according to the procedures in this paragraph.

(1) The leak definition shall be 21,000 ppm as propane. Use propane to calibrate the instrument, setting the span at the leak definition. The response time to 90 percent of the final stable reading shall be less than 8 seconds for the detector with the sampling line and probe attached.

(2) In addition to the procedures in Method 21, include the following procedures:

(i) Perform the test on each compartment during loading of that compartment or while the compartment is still under pressure.

(ii) To eliminate a positive instrument drift, the dwell time for each leak detection shall not exceed two times the instrument response time. Purge the instrument with ambient air between each leak detection. The duration of the purge shall be in excess of two instrument response times.

(iii) Attempt to block the wind from the area being monitored. Record the highest detector reading and location for each leak.

(g) *Nitrogen pressure decay field test.* For those cargo tanks with manifolded product lines, this test procedure shall be conducted on each compartment.

(1) Record the cargo tank capacity. Upon completion of the loading operation, record the total volume loaded. Seal the cargo tank vapor collection system at the vapor coupler. The sealing apparatus shall have a pressure tap. Open the internal vapor valve(s) of the cargo tank and record the initial headspace pressure. Reduce or increase, as necessary, the initial headspace pressure to 460 mm H_2 O (18.0 in. H_2 O), gauge by releasing pressure or by adding commercial grade nitrogen gas from a high pressure cylinder capable of maintaining a pressure of 2,000 psig.

(i) The cylinder shall be equipped with a compatible two-stage regulator with a relief valve and a flow control metering valve. The flow rate of the nitrogen shall be no less than 2 cfm. The maximum allowable time to pressurize cargo tanks with headspace volumes of 1,000 gallons or less to the appropriate pressure is 4 minutes. For cargo tanks with a headspace of greater than 1,000 gallons, use as a maximum allowable time to pressurize 4 minutes or the result from the equation below, whichever is greater.

$T = V_h \times 0.004$

where:

T = maximum allowable time to pressurize the cargo tank, min;

V_h = cargo tank headspace volume during testing, gal.

(2) It is recommended that after the cargo tank headspace pressure reaches approximately 460 mm H_2 O (18 in. $H_2$0), gauge, a fine adjust valve be used to adjust the headspace pressure to 460 mm H_2 O (18.0 in. H_2 O), gauge for the next 30 ±5 seconds.

(3) Reseal the cargo tank vapor collection system and record the headspace pressure after 1 minute. The measured headspace pressure after 1 minute shall be greater than the minimum allowable final headspace pressure (P_F) as calculated from the following equation:

$$P_F = 18\left(\frac{(18-N)}{18}\right)^{\left(\frac{V_s}{5(V_h)}\right)}$$

where:

(P_F) = minimum allowable final headspace pressure, in. H_2 O, gauge;

V_s = total cargo tank shell capacity, gal;

V_h = cargo tank headspace volume after loading, gal;

18.0 = initial pressure at start of test, in. H_2 O, gauge;

N = 5-minute continuous performance standard at any time from the third column of Table 2 of §63.425(e)(i), inches H_2 O.

(4) Conduct the internal vapor valve portion of this test by repressurizing the cargo tank headspace with nitrogen to 460 mm H_2 O (18 in. H_2 O), gauge. Close the internal vapor valve(s), wait for 30 ±5 seconds, then relieve the pressure downstream of the vapor valve in the vapor collection system to atmospheric pressure. Wait 15 seconds, then reseal the vapor collection system. Measure and record the pressure every minute for 5 minutes. Within 5 seconds of the pressure measurement at the end of 5 minutes, open the vapor valve and record the headspace pressure as the “final pressure.”

(5) If the decrease in pressure in the vapor collection system is less than at least one of the interval pressure change values in Table 3 of this paragraph, or if the final pressure is equal to or greater than 20 percent of the 1-minute final headspace pressure determined in the test in paragraph (g)(3) of this section, then the cargo tank is considered to be a vapor-tight gasoline cargo tank.

Table 3_Pressure Change for Internal Vapor Valve Test

Time interval	**Interval pressure change, mm H2O (in. H2O)**
After 1 minute	28 (1.1)
After 2 minutes	56 (2.2)
After 3 minutes	84 (3.3)
After 4 minutes	112 (4.4)
After 5 minutes	140 (5.5)

(h) *Continuous performance pressure decay test.* The continuous performance pressure decay test shall be performed using Method 27, appendix A, 40 CFR part 60. Conduct only the positive pressure test using a time period (t) of 5 minutes. The initial pressure (P_i) shall be 460 mm H_2 O (18 in. H_2 O), gauge. The maximum allowable 5-minute pressure change (Δ p) which shall be met at any time is shown in the third column of Table 2 of §63.425(e)(1).

§63.427 Continuous monitoring.

(a) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a continuous monitoring system (CMS) as specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, except as allowed in paragraph (a)(5) of this section.

(3) Where a thermal oxidation system other than a flare is used, a CPMS capable of measuring temperature must be installed in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs.

(b) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall operate the vapor processing system in a manner not to exceed the operating parameter value for the parameter described in paragraphs (a)(1) and (a)(2) of this section, or to go below the operating parameter value for the parameter described in paragraph (a)(3) of this section, and established using the procedures in §63.425(b). In cases where an alternative parameter pursuant to paragraph (a)(5) of this section is approved, each owner or operator shall operate the vapor processing system in a manner not to exceed or not to go below, as appropriate, the alternative operating parameter value. Operation of the vapor processing system in a manner exceeding or going below the operating parameter value, as specified above, shall constitute a violation of the emission standard in §63.422(b).

§63.428 Reporting and recordkeeping.

(b) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall keep records of the test results for each gasoline cargo tank loading at the facility as follows:

(1) Annual certification testing performed under §63.425(e) and railcar bubble leak testing performed under §63.425(k); and

(2) Continuous performance testing performed at any time at that facility under §63.425 (f), (g), and (h).

(3) The documentation file shall be kept up-to-date for each gasoline cargo tank loading at the facility. The documentation for each test shall include, as a minimum, the following information:

(i) Name of test: Annual Certification Test—Method 27 (§63.425(e)(1)); Annual Certification Test—Internal Vapor Valve (§63.425(e)(2)); Leak Detection Test (§63.425(f)); Nitrogen Pressure Decay Field Test (§63.425(g)); Continuous Performance Pressure Decay Test (§63.425(h)); or Railcar Bubble Leak Test Procedure (§63.425(i)).

(ii) Cargo tank owner's name and address.

(iii) Cargo tank identification number.

(iv) Test location and date.

(v) Tester name and signature.

(vi) Witnessing inspector, if any: Name, signature, and affiliation.

(vii) Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing.

(viii) Test results: test pressure; pressure or vacuum change, mm of water; time period of test; number of leaks found with instrument; and leak definition.

(c) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall:

(1) Keep an up-to-date, readily accessible record of the continuous monitoring data required under §63.427(a). This record shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The date and time of day shall also be indicated at reasonable intervals on this record.

(2) Record and report simultaneously with the notification of compliance status required under §63.9(h):

(i) All data and calculations, engineering assessments, and manufacturer's recommendations used in determining the operating parameter value under §63.425(b); and

(ii) The following information when using a flare under provisions of §63.11(b) to comply with §63.422(b):

(A) Flare design (i.e., steam-assisted, air-assisted, or non-assisted); and

(B) All visible emissions readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required under §63.425(a).

(g) Each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart shall include in a semiannual report to the Administrator the following information, as applicable:

(1) Each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility;

(2) Periodic reports required under paragraph (d) of this section; and

(3) The number of equipment leaks not repaired within 5 days after detection.

(h) Each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart shall submit an excess emissions report to the Administrator in accordance with §63.10(e)(3), whether or not a CMS is installed at the facility. The following occurrences are excess emissions events under this subpart, and the following information shall be included in the excess emissions report, as applicable:

(1) Each exceedance or failure to maintain, as appropriate, the monitored operating parameter value determined under §63.425(b). The report shall include the monitoring data for the days on which exceedances or failures to maintain have occurred, and a description and timing of the steps taken to repair or perform maintenance on the vapor collection and processing systems or the CMS.

(2) Each instance of a nonvapor-tight gasoline cargo tank loading at the facility in which the owner or operator failed to take steps to assure that such cargo tank would not be reloaded at the facility before vapor tightness documentation for that cargo tank was obtained.

(3) Each reloading of a nonvapor-tight gasoline cargo tank at the facility before vapor tightness documentation for that cargo tank is obtained by the facility in accordance with §63.422(c)(2).

(4) At any time following the notification required under paragraph (i)(1) of this section and approval by the Administrator of the facility parameters, and prior to any of the parameters being exceeded, the owner or operator may submit a report to request modification of any facility parameter to the Administrator for approval. Each such request shall document any expected HAP emission change resulting from the change in parameter.

(k) As an alternative to keeping records at the terminal of each gasoline cargo tank test result as required in paragraph (b) of this section, an owner or operator may comply with the requirements in either paragraph (k)(1) or (2) of this section.

(1) An electronic copy of each record is instantly available at the terminal.

(i) The copy of each record in paragraph (k)(1) of this section is an exact duplicate image of the original paper record with certifying signatures.

(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (k)(1) of this section.

(2) For facilities that utilize a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (*e.g.,* via a card lock-out system), a copy of the documentation is made available (*e.g.,* via facsimile) for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame.

(i) The copy of each record in paragraph (k)(2) of this section is an exact duplicate image of the original paper record with certifying signatures.

(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (k)(2) of this section.

SECTION E.17 40 CFR Part 60, Subpart UU – Standards of Performance for Asphalt Process and Asphalt Roofing Manufacture

E.17.1 General Provisions Relating to NSPS Subpart UU [326 IAC 12-1] [40 CFR Part 60, Subpart UU]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the asphalt storage tanks 125, 126, 127, 129, 150, 569, 613, TK-SP-1, TK-SP-2, TK-LG-1 through TK-LG-9, and TK-LG-12 through TK-LG-17.

E.17.2 NSPS Subpart UU Requirements [40 CFR Part 60, Subpart UU] [326 IAC 12]

Pursuant to 40 CFR 60.470, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart UU, which are incorporated by reference as 326 IAC 12, for the asphalt storage tanks identified in Condition E.17.1 as specified below:

Subpart UU—Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture

§60.470 Applicability and designation of affected facilities.

(a) The affected facilities to which this subpart applies are each saturator and each mineral handling and storage facility at asphalt roofing plants; and each asphalt storage tank and each blowing still at asphalt processing plants, petroleum refineries, and asphalt roofing plants.

(b) Any saturator or mineral handling and storage facility under paragraph (a) of this section that commences construction or modification after November 18, 1980, is subject to the requirements of this subpart. Any asphalt storage tank or blowing still that processes and/or stores asphalt used for roofing only or for roofing and other purposes, and that commences construction or modification after November 18, 1980, is subject to the requirements of this subpart.

Any asphalt storage tank or blowing still that processes and/or stores only nonroofing asphalts and that commences construction or modification after May 26, 1981, is subject to the requirements of this subpart.

§ 60.471 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

Afterburner (A/B) means an exhaust gas incinerator used to control emissions of particulate matter.

Asphalt processing means the storage and blowing of asphalt.

Asphalt processing plant means a plant which blows asphalt for use in the manufacture of asphalt products.

Asphalt roofing plant means a plant which produces asphalt roofing products (shingles, roll roofing, siding, or saturated felt).

Asphalt storage tank means any tank used to store asphalt at asphalt roofing plants, petroleum refineries, and asphalt processing plants. Storage tanks containing cutback asphalts (asphalts diluted with solvents to reduce viscosity for low temperature applications) and emulsified asphalts (asphalts dispersed in water with an emulsifying agent) are not subject to this regulation.

Blowing still means the equipment in which air is blown through asphalt flux to change the softening point and penetration rate.

Catalyst means a substance which, when added to asphalt flux in a blowing still, alters the penetrating-softening point relationship or increases the rate of oxidation of the flux.

Coating blow means the process in which air is blown through hot asphalt flux to produce coating asphalt. The coating blow starts when the air is turned on and stops when the air is turned off.

Electrostatic precipitator (ESP) means an air pollution control device in which solid or liquid particulates in a gas stream are charged as they pass through an electric field and precipitated on a collection surface.

High velocity air filter (HVAF) means an air pollution control filtration device for the removal of sticky, oily, or liquid aerosol particulate matter from exhaust gas streams.

Mineral handling and storage facility means the areas in asphalt roofing plants in which minerals are unloaded from a carrier, the conveyor transfer points between the carrier and the storage silos, and the storage silos.

Saturator means the equipment in which asphalt is applied to felt to make asphalt roofing products. The term saturator includes the saturator, wet looper, and coater.

§60.472 Standards for particulate matter.

(c) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any asphalt storage tank exhaust gases with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank(s) are ducted to a control device for a saturator, the combined emissions shall meet the emission limit contained in paragraph (a) of this section during the time the saturator control device is operating. At any other time the asphalt storage tank(s) must meet the opacity limit specified above for storage tanks.

§ 60.473 Monitoring of operations.

(c) An owner or operator subject to the provisions of this subpart and using a control device not mentioned in paragraphs (a) or (b) of this section shall provide to the Administrator information describing the operation of the control device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Administrator may require continuous monitoring and will determine the process parameters to be monitored.

§ 60.474 Test methods and procedures.

(c) The owner or operator shall determine compliance with the particulate matter standards in §60.472 as follows:

(5) Method 9 and the procedures in §60.11 shall be used to determine opacity.

E.17.3 Deadlines Relating to the Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture [40 CFR Part 60, Subpart UU]

The Permittee shall comply with the following requirements by the dates listed for storage tanks TK-SP-1, TK-SP-2, TK-LG-1 through TK-LG-9, and TK-LG-12 through TK-LG-17:

Requirement	Rule Citations	Deadline
Notification of the Date Construction (or Reconstruction) is Commenced	40 CFR 60.7(a)(1)	Within 30 days after commencement of construction
Notification of the Actual Date of Initial Startup	40 CFR 60.7(a)(3)	Within 15 days after date of initial startup
Notification of any Physical or Operational Change	40 CFR 60.7(a)(4)	60 days or more prior to commencement of change or as soon as practicable
Notification of the Anticipated Date for Conducting the Initial Opacity Observations Required by 40 CFR 60.11(e)(1)	40 CFR 60.7(a)(6)	30 days or more prior to opacity observations
Conduct Initial Opacity Observations Required by 40 CFR 60.11(e)(1)	40 CFR 60.11(e)(1)	60 days after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup of the facility

SECTION E.18 40 CFR Part 60, Subpart Ja - Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

E.18.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR Part 60, Subpart Ja.

E.18.2 Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007 [40 CFR Part 60, Subpart Ja] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart Ja, the Permittee shall comply with the provisions of Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007, which are incorporated by reference as 326 IAC 12, as specified as follows:

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Source: 73 FR 35867, June 24, 2008, unless otherwise noted.

§ 60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices, including flares and process heaters, and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Except for flares, the provisions of this subpart apply only to affected facilities under paragraph (a) of this section which commence construction, modification, or reconstruction after May 14, 2007. For flares, the provisions of this subpart apply only to flares which commence construction, modification, or reconstruction, after June 24, 2008.

(c) For the purposes of this subpart, under §60.14, a modification to a flare occurs if:

(1) Any new piping from a refinery process unit or fuel gas system is physically connected to the flare (e.g., for direct emergency relief or some form of continuous or intermittent venting); or

(2) A flare is physically altered to increase the flow capacity of the flare.

(d) For purposes of this subpart, under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following May 14, 2007. For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

Effective Date Note: At 73 FR 78552, Dec. 22, 2008, §60.100a(c) was stayed from Feb. 24, 2009 until further notice.

§ 60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act, in §60.2, and in this section.

Coke burn-off means the coke removed from the surface of the FCCU catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated by the formula specified in §60.104a.

Contact material means any substance formulated to remove metals, sulfur, nitrogen, or any other contaminant from petroleum derivatives.

Delayed coking unit means one or more refinery process units in which high molecular weight petroleum derivatives are thermally cracked and petroleum coke is produced in a series of closed, batch system reactors.

Flare means an open-flame fuel gas combustion device used for burning off unwanted gas or flammable gas and liquids. The flare includes the foundation, flare tip, structural support, burner, igniter, flare controls including air injection or steam injection systems, flame arrestors, knockout pots, piping and header systems.

Flexicoking unit means one or more refinery process units in which high molecular weight petroleum derivatives are thermally cracked and petroleum coke is continuously produced and then gasified to produce a synthetic fuel gas.

Fluid catalytic cracking unit means a refinery process unit in which petroleum derivatives are continuously charged and hydrocarbon molecules in the presence of a catalyst suspended in a fluidized bed are fractured into smaller molecules, or react with a contact material suspended in a fluidized bed to improve feedstock quality for additional processing and the catalyst or contact material is continuously regenerated by burning off coke and other deposits. The unit includes the riser, reactor, regenerator, air blowers, spent catalyst or contact material stripper, catalyst or contact material recovery equipment, and regenerator equipment for controlling air pollutant emissions and for heat recovery. When *fluid catalyst cracking unit* regenerator exhaust from two separate fluid catalytic cracking units share a common exhaust treatment (e.g., CO boiler or wet scrubber), the *fluid catalytic cracking unit* is a single affected facility.

Fluid coking unit means one or more refinery process units in which high molecular weight petroleum derivatives are thermally cracked and petroleum coke is continuously produced in a fluidized bed system. The *fluid coking unit* includes equipment for controlling air pollutant emissions and for heat recovery on the fluid coking burner exhaust vent.

Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. *Fuel gas* includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. *Fuel gas* does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners, but does include gases from flexicoking unit gasifiers. *Fuel gas* does not include vapors that are collected and combusted to comply with the wastewater provisions in §60.692, 40 CFR 61.343 through 61.348, 40 CFR 63.647, or the marine tank vessel loading provisions in 40 CFR 63.562 or 40 CFR 63.651.

Fuel gas combustion device means any equipment, such as process heaters, boilers, and flares, used to combust fuel gas, except facilities in which gases are combusted to produce sulfur or sulfuric acid.

Fuel gas system means a system of compressors, piping, knock-out pots, mix drums, and units used to remove sulfur contaminants from the fuel gas (e.g., amine scrubbers) that collects refinery fuel gas from one or more sources for treatment as necessary prior to combusting in process heaters or boilers. A *fuel*

gas system may have an overpressure vent to a flare but the primary purpose for a fuel gas system is to provide fuel to the refinery.

Oxidation control system means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to sulfur dioxide (SO_2) and recycling the $SO_2$to the reactor furnace or the first-stage catalytic reactor of the Claus sulfur recovery plant or converting the $SO_2$to a sulfur product.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum refinery means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, asphalt (bitumen) or other products through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives.

Process heater means an enclosed combustion device used to transfer heat indirectly to process stream materials (liquids, gases, or solids) or to a heat transfer material for use in a process unit instead of steam.

Process upset gas means any gas generated by a petroleum refinery process unit as a result of upset or malfunction.

Reduced sulfur compounds means hydrogen sulfide (H_2S), carbonyl sulfide, and carbon disulfide.

Reduction control system means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to H_2S and either recycling the H_2S to the reactor furnace or the first-stage catalytic reactor of the Claus sulfur recovery plant or converting the H_2S to a sulfur product.

Refinery process unit means any segment of the petroleum refinery in which a specific processing operation is conducted.

Sulfur pit means the storage vessel in which sulfur that is condensed after each Claus catalytic reactor is initially accumulated and stored. *A sulfur pit* does not include secondary sulfur storage vessels downstream of the initial Claus reactor sulfur pits.

Sulfur recovery plant means all process units which recover sulfur from $HS_2$and/or SO_2at a petroleum refinery. The *sulfur recovery plant* also includes sulfur pits used to store the recovered sulfur product, but it does not include secondary sulfur storage vessels downstream of the sulfur pits. For example, a Claus sulfur recovery plant includes: Reactor furnace and waste heat boiler, catalytic reactors, sulfur pits, and, if present, oxidation or reduction control systems, or incinerator, thermal oxidizer, or similar combustion device. Multiple sulfur recovery units are a single affected facility only when the units share the same source of sour gas. Sulfur recovery plants that receive source gas from completely segregated sour gas treatment systems are separate affected facilities.

Effective Date Note: At 73 FR 78552, Dec. 22, 2008, in §60.101a the definition of “flare” was stayed from Feb. 24, 2009 until further notice.

§ 60.102a Emissions limitations.

(a) Each owner or operator that is subject to the requirements of this subpart shall comply with the emissions limitations in paragraphs (b) through (h) of this section on and after the date on which the initial performance test, required by §60.8, is completed, but not later than 60 days after achieving the

maximum production rate at which the affected facility will be operated, or 180 days after initial startup, whichever comes first.

(b) An owner or operator subject to the provisions of this subpart shall not discharge or cause the discharge into the atmosphere from any FCCU or FCU:

(1) Particulate matter (PM) in excess of the limits in paragraphs (b)(1)(i), (ii), or (iii) of this section.

(i) 1.0 kilogram per Megagram (kg/Mg)(1 pound (lb) per 1,000 lb) coke burn-off or, if a PM continuous emission monitoring system (CEMS) is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air for each modified or reconstructed FCCU.

(ii) 0.5 gram per kilogram (g/kg) coke burn-off (0.5 lb PM/1,000 lb coke burn-off) or, if a PM CEMS is used, 0.020 gr/dscf corrected to 0 percent excess air for each newly constructed FCCU.

(iii) 1.0 kg/Mg (1 lb/1,000 lb) coke burn-off; or if a PM CEMS is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air for each affected FCU.

(2) Nitrogen oxides (NO_X) in excess of 80 parts per million by volume (ppmv), dry basis corrected to 0 percent excess air, on a 7-day rolling average basis.

(3) Sulfur dioxide (SO_2) in excess of 50 ppmv dry basis corrected to 0 percent excess air, on a 7-day rolling average basis and 25 ppmv, dry basis corrected to 0 percent excess air, on a 365-day rolling average basis.

(4) Carbon monoxide (CO) in excess of 500 ppmv, dry basis corrected to 0 percent excess air, on an hourly average basis.

(c) The owner or operator of a FCCU or FCU that uses a continuous parameter monitoring system (CPMS) according to §60.105a(b)(1) shall comply with the applicable control device parameter operating limit in paragraph (c)(1) or (2) of this section.

(1) If the FCCU or FCU is controlled using an electrostatic precipitator:

(i) The 3-hour rolling average total power and secondary current to the entire system must not fall below the level established during the most recent performance test; and

(ii) The daily average exhaust coke burn-off rate must not exceed the level established during the most recent performance test.

(2) If the FCCU or FCU is controlled using a wet scrubber:

(i) The 3-hour rolling average pressure drop must not fall below the level established during the most recent performance test; and

(ii) The 3-hour rolling average liquid-to-gas ratio must not fall below the level established during the most recent performance test.

(d) If an FCCU or FCU uses a continuous opacity monitoring system (COMS) according to the alternative monitoring option in §60.105a(e), the 3-hour rolling average opacity of emissions from the FCCU or FCU as measured by the COMS must not exceed the site-specific opacity limit established during the most recent performance test.

(e) The owner or operator of a FCCU or FCU that is exempted from the requirement for a CO continuous emissions monitoring system under §60.105a(h)(3) shall comply with the parameter operating limits in paragraph (e)(1) or (2) of this section.

(1) For a FCCU or FCU with no post-combustion control device:

(i) The hourly average temperature of the exhaust gases exiting the FCCU or FCU must not fall below the level established during the most recent performance test.

(ii) The hourly average oxygen (O_2) concentration of the exhaust gases exiting the FCCU or FCU must not fall below the level established during the most recent performance test.

(2) For a FCCU or FCU with a post-combustion control device:

(i) The hourly average temperature of the exhaust gas vent stream exiting the control device must not fall below the level established during the most recent performance test.

(ii) The hourly average O_2concentration of the exhaust gas vent stream exiting the control device must not fall below the level established during the most recent performance test.

(f) Except as provided in paragraph (f)(3), each owner or operator of an affected sulfur recovery plant shall comply with the applicable emission limits in paragraphs (f)(1) or (2) of this section.

(1) For a sulfur recovery plant with a capacity greater than 20 long tons per day (LTD):

(i) For a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere in excess of 250 ppm by volume (dry basis) of sulfur dioxide (SO_2) at zero percent excess air. If the sulfur recovery plant consists of multiple process trains or release points the owner or operator shall comply with the 250 ppmv limit for each process train or release point or comply with a flow rate weighted average of 250 ppmv for all release points from the sulfur recovery plant; or

(ii) For sulfur recovery plant with a reduction control system not followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere in excess of 300 ppm by volume of reduced sulfur compounds and 10 ppm by volume of hydrogen sulfide (HS_2), each calculated as ppm $SO_2$by volume (dry basis) at zero percent excess air; or

(iii) For systems using oxygen enrichment, the owner or operator shall calculate the applicable emission limit using Equation 1 of this section:

$$E_{LS} = k_1 \times \left(-0.038 * (\%O_2)^2 + 11.53 * \%O_2 + 25.6\right) \qquad \text{(Eq. 1)}$$

Where:

E_{LS}= Emission rate of $SO_2$for large sulfur recovery plant, ppmv;

k_1= Constant factor for emission limit conversion: k_1= 1 for converting to SO_2limit and k_1= 1.2 for converting to the reduced sulfur compounds limit; and

$\%O_2$= O_2concentration to the SRP, percent by volume (dry basis).

(2) For a sulfur recovery plant with a capacity of 20 LTD or less:

(i) For a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere in excess of 2,500 ppm by volume (dry basis) of SO_2at zero percent excess air. If the sulfur recovery plant consists of multiple process trains or release points the owner or operator shall comply with the 2,500 ppmv limit for each process train or release point or comply with a flow rate weighted average of 2,500 ppmv for all release points from the sulfur recovery plant; or

(ii) For sulfur recovery plant with a reduction control system not followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere in excess of 3,000 ppm by volume of reduced sulfur compounds and 100 ppm by volume of hydrogen sulfide (H_2S), each calculated as ppm SO2by volume (dry basis) at zero percent excess air; or

(iii) For systems using oxygen enrichment, the owner or operator shall calculate the applicable emission limit using Equation 2 of this section:

$$E_{ss} = k_1 \times \left(-0.38 * (\%O_2)^2 + 115.3 * \%O_2 + 256\right) \qquad \text{(Eq. 2)}$$

Where:

E_{SS}= Emission rate of $SO_2$for small sulfur recovery plant, ppmv.

(3) Periods of maintenance of the sulfur pit, during which the emission limits in paragraphs (f)(1) and (2) shall not apply, shall not exceed 240 hours per year. The owner or operator must document the time periods during which the sulfur pit vents were not controlled and measures taken to minimize emissions during these periods. Examples of these measures include not adding fresh sulfur or shutting off vent fans.

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emission limits in paragraphs (g)(1) through (3) of this section.

(1) For each fuel gas combustion device, the owner or operator shall comply with either the emission limit in paragraph (g)(1)(i) of this section or the fuel gas concentration limit in paragraph (g)(1)(ii) of this section.

(i) The owner or operator shall not discharge or cause the discharge of any gases into the atmosphere that contain SO_2in excess of 20 ppmv (dry basis, corrected to 0 percent excess air) determined hourly on a 3-hour rolling average basis and SO_2in excess of 8 ppmv (dry basis, corrected to 0 percent excess air), determined daily on a 365 successive day rolling average basis; or

(ii) The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H_2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H_2S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.

(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr), the owner or operator shall not discharge to the atmosphere any emissions of NO_Xin excess of 40 ppmv (dry basis, corrected to 0 percent excess air) on a 24-hour rolling average basis.

(3) Except as provided in paragraphs (h) and (i) of this section, the owner or operator of an affected flare shall not allow flow to each affected flare during normal operations of more than 7,080 standard cubic meters per day (m^3 /day) (250,000 standard cubic feet per day (scfd)) on a 30-day rolling average. The

owner or operator of a newly constructed or reconstructed flare shall comply with the emission limit in this paragraph by no later than the date that flare becomes an affected flare subject to this subpart. The owner or operator of a modified flare shall comply with the emission limit in this paragraph by no later than 1 year after that flare becomes an affected flare subject to this subpart.

(h) The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from paragraph (g) of this section.

(i) In periods of fuel gas imbalance that are described in the flare management plan required in section 60.103a(a), compliance with the emission limit in paragraph (g)(3) of this section is demonstrated by following the procedures and maintaining records described in the flare management plan to document the periods of excess fuel gas.

Effective Date Note: At 73 FR 78552, Dec. 22, 2008, in §60.102a, paragraph (g) was stayed from Feb. 24, 2009 until further notice.

§ 60.103a Work practice standards.

(a) Each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan. The owner or operator of a newly constructed or reconstructed flare must develop and implement the flare management plan by no later than the date that flare becomes an affected flare subject to this subpart. The owner or operator of a modified flare must develop and implement the flare management plan by no later than 1 year after the flare becomes an affected flare subject to this subpart. The plan must include:

(1) A diagram illustrating all connections to the flare;

(2) Methods for monitoring flow rate to the flare, including a detailed description of the manufacturer's specifications, including but not limited to, make, model, type, range, precision, accuracy, calibration, maintenance, and quality assurance procedures for flare gas monitoring devices;

(3) Procedures to minimize discharges to the flare gas system during the planned start-up and shutdown of the refinery process units that are connected to the affected flare;

(4) Procedures to conduct a root cause analysis of any process upset or malfunction that causes a discharge to the flare in excess of 14,160 m^3 /day (500,000 scfd);

(5) Procedures to reduce flaring in cases of fuel gas imbalance (i.e., excess fuel gas for the refinery's energy needs); and

(6) Explanation of procedures to follow during times that the flare must exceed the limit in §60.102a(g)(3) (e.g., keep records of natural gas purchases to support assertion that the refinery is producing more fuel gas than needed to operate the processes).

(b) Each owner or operator that operates a fuel gas combustion device or sulfur recovery plant subject to this subpart shall conduct a root cause analysis of any emission limit exceedance or process start-up, shutdown, upset, or malfunction that causes a discharge to the atmosphere in excess of 227 kilograms per day (kg/day) (500 lb per day (lb/day)) of SO2. For any root cause analysis performed, the owner or operator shall record the identification of the affected facility, the date and duration of the discharge, the results of the root cause analysis, and the action taken as a result of the root cause analysis. The first root cause analysis for a modified flare must be conducted no later than the first discharge that occurs after the flare has been an affected flare subject to this subpart for 1 year.

(c) Each owner or operator of a delayed coking unit shall depressure to 5 lb per square inch gauge (psig) during reactor vessel depressuring and vent the exhaust gases to the fuel gas system for combustion in a fuel gas combustion device.

§ 60.104a Performance tests.

(a) The owner or operator shall conduct a performance test for each FCCU, FCU, sulfur recovery plant, and fuel gas combustion device to demonstrate initial compliance with each applicable emissions limit in §60.102a according to the requirements of §60.8. The notification requirements of §60.8(d) apply to the initial performance test and to subsequent performance tests required by paragraph (b) of this section (or as required by the Administrator), but does not apply to performance tests conducted for the purpose of obtaining supplemental data because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.

(b) The owner or operator of a FCCU or FCU that elects to monitor control device operating parameters according to the requirements in §60.105a(b), to use bag leak detectors according to the requirements in §60.105a(c), or to use COMS according to the requirements in §60.105a(e) shall conduct a PM performance test at least once every 12 months and furnish the Administrator a written report of the results of each test.

(c) In conducting the performance tests required by this subpart (or as requested by the Administrator), the owner or operator shall use the test methods in 40 CFR part 60, Appendices A–1 through A–8 or other methods as specified in this section, except as provided in §60.8(b).

(d) The owner or operator shall determine compliance with the PM, NOX, SO2, and CO emissions limits in §60.102a(b) for FCCU and FCU using the following methods and procedures:

(1) Method 1 of appendix A–1 to part 60 for sample and velocity traverses.

(2) Method 2 of appendix A–1 to part 60 for velocity and volumetric flow rate.

(3) Method 3, 3A, or 3B of appendix A–2 to part 60 for gas analysis. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(4) Method 5, 5B, or 5F of appendix A–3 to part 60 for determining PM emissions and associated moisture content from a FCCU or FCU without a wet scrubber subject to the emissions limit in §63.102a(b)(1). Use Method 5 or 5B of appendix A–3 to part 60 for determining PM emissions and associated moisture content from a FCCU or FCU with a wet scrubber subject to the emissions limit in §63.102a(b)(1).

(i) The PM performance test consists of 3 valid test runs; the duration of each test run must be no less than 60 minutes.

(ii) The emissions rate of PM (E_{PM}) is computed for each run using Equation 3 of this section:

$$E = \frac{c_s \, Q_{sd}}{K \, R_c} \qquad \text{(Eq. 3)}$$

Where:

E = Emission rate of PM, g/kg, lbs per 1,000 lbs (lb/1,000 lbs) of coke burn-off;

cs= Concentration of total PM, grams per dry standard cubic meter (g/dscm), gr/dscf;

Qsd= Volumetric flow rate of effluent gas, dry standard cubic meters per hour, dry standard cubic feet per hour;

Rc= Coke burn-off rate, kilograms per hour (kg/hr), lbs per hour (lbs/hr) coke; and

K = Conversion factor, 1.0 grams per gram (7,000 grains per lb).

(iii) The coke burn-off rate (Rc) is computed for each run using Equation 4 of this section:

$$R_c = K_1 Q_r \left(\%CO_2 + \%CO\right) + K_2 Q_a - K_3 Q_r \left(\%CO/2 + \%CO_2 + \%O_2\right) + K_3 Q_{oxy} \left(\%O_{oxy}\right) \qquad \text{(Eq. 4)}$$

Where:

Rc= Coke burn-off rate, kg/hr (lb/hr);

Qr= Volumetric flow rate of exhaust gas from FCCU regenerator or fluid coking burner before any emissions control or energy recovery system that burns auxiliary fuel, dry standard cubic meters per minute (dscm/min), dry standard cubic feet per minute (dscf/min);

Qa= Volumetric flow rate of air to FCCU regenerator or fluid coking burner, as determined from the unit's control room instrumentation, dscm/min (dscf/min);

Qoxy= Volumetric flow rate of O_2enriched air to FCCU regenerator or fluid coking unit, as determined from the unit's control room instrumentation, dscm/min (dscf/min);

%CO2= Carbon dioxide concentration in FCCU regenerator or fluid coking burner exhaust, percent by volume (dry basis);

%CO = CO concentration in FCCU regenerator or fluid coking burner exhaust, percent by volume (dry basis);

$\%O_2$= O2concentration in FCCU regenerator or fluid coking burner exhaust, percent by volume (dry basis);

%Ooxy= O2concentration in O2enriched air stream inlet to the FCCU regenerator or fluid coking burner, percent by volume (dry basis);

K1= Material balance and conversion factor, 0.2982 (kg-min)/(hr-dsc-%) [0.0186 (lb-min)/(hr-dscf-%)];

K2= Material balance and conversion factor, 2.088 (kg-min)/(hr-dscm) [0.1303 (lb-min)/(hr-dscf)]; and

K3= Material balance and conversion factor, 0.0994 (kg-min)/(hr-dscm-%) [0.00624 (lb-min)/(hr-dscf-%)].

(iv) During the performance test, the volumetric flow rate of exhaust gas from catalyst regenerator (Qr) before any emission control or energy recovery system that burns auxiliary fuel is measured using Method 2 of appendix A–1 to part 60.

(v) For subsequent calculations of coke burn-off rates or exhaust gas flow rates, the volumetric flow rate of Qris calculated using average exhaust gas concentrations as measured by the monitors in §60.105a(b)(2), if applicable, using Equation 5 of this section:

$$Q_r = \frac{79 \times Q_a + (100 - \%Oxy) \times Q_{oxy}}{100 - \%CO_2 - \%CO - \%O_2} \qquad \text{(Eq. 5)}$$

Where:

Qr= Volumetric flow rate of exhaust gas from FCCU regenerator or fluid coking burner before any emission control or energy recovery system that burns auxiliary fuel, dscm/min (dscf/min);

Qa= Volumetric flow rate of air to FCCU regenerator or fluid coking burner, as determined from the unit's control room instrumentation, dscm/min (dscf/min);

Qoxy= Volumetric flow rate of O2enriched air to FCCU regenerator or fluid coking unit, as determined from the unit's control room instrumentation, dscm/min (dscf/min);

%CO2= Carbon dioxide concentration in FCCU regenerator or fluid coking burner exhaust, percent by volume (dry basis);

%CO = CO concentration FCCU regenerator or fluid coking burner exhaust, percent by volume (dry basis). When no auxiliary fuel is burned and a continuous CO monitor is not required in accordance with §60.105a(g)(3), assume %CO to be zero;

%O2= O2concentration in FCCU regenerator or fluid coking burner exhaust, percent by volume (dry basis); and

$\%O_{oxy}$= O2concentration in O2enriched air stream inlet to the FCCU regenerator or fluid coking burner, percent by volume (dry basis).

(5) Method 6, 6A, or 6C of appendix A–4 to part 60 for moisture content and for the concentration of SO2; the duration of each test run must be no less than 4 hours. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A–4 to part 60.

(6) Method 7, 7A, 7C, 7D, or 7E of appendix A–4 to part 60 for moisture content and for the concentration of NOXcalculated as nitrogen dioxide (NO2); the duration of each test run must be no less than 4 hours. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A–4 to part 60.

(7) Method 10, 10A, or 10B of appendix A–4 to part 60 for moisture content and for the concentration of CO. The sampling time for each run must be 60 minutes.

(8) The owner or operator shall adjust PM, NOX, SO2, and CO pollutant concentrations to 0 percent excess air or 0 percent O2using Equation 6 of this section:

$$C_{adj} = C_{meas} \left[20.9_c \Big/ (20.9 - \%O_2) \right] \qquad \text{(Eq. 6)}$$

Where:

Cadj= pollutant concentration adjusted to 0 percent excess air or O2, parts per million (ppm) or g/dscm;

Cmeas= pollutant concentration measured on a dry basis, ppm or g/dscm;

20.9c= 20.9 percent O2–0.0 percent O2(defined O2correction basis), percent;

20.9 = O2concentration in air, percent; and

%O2= O2concentration measured on a dry basis, percent.

(e) The owner or operator of a FCCU or FCU that is controlled by an electrostatic precipitator or wet scrubber and that is subject to control device operating parameter limits in §60.102a(c) shall establish the limits based on the performance test results according to the following procedures:

(1) Reduce the parameter monitoring data to hourly averages for each test run;

(2) Determine the hourly average operating limit for each required parameter as the average of the three test runs.

(f) The owner or operator of an FCCU or FCU that uses cyclones to comply with the PM limit in §60.102a(b)(1) and elects to comply with the COMS alternative monitoring option in §60.105a(d) shall establish a site-specific opacity operating limit according to the procedures in paragraphs (f)(1) through (3) of this section.

(1) Collect COMS data every 10 seconds during the entire period of the PM performance test and reduce the data to 6-minute averages.

(2) Determine and record the hourly average opacity from all the 6-minute averages.

(3) Compute the site-specific limit using Equation 7 of this section:

$$Opacity\ Limit = Opacity_{st} x \left(\frac{1 lb/1,000\ lb\ coke\ burn}{PMEmR_{st}} \right) \qquad \text{(Eq. 7)}$$

Where:

Opacity limit = Maximum permissible hourly average opacity, percent, or 10 percent, whichever is greater;

Opacityst= Hourly average opacity measured during the source test runs, percent; and

PMEmRst= PM emission rate measured during the source test, lb/1,000 lbs coke burn.

(g) The owner or operator of a FCCU or FCU that is exempt from the requirement to install and operate a CO CEMS pursuant to §60.105a(h)(3) and that is subject to control device operating parameter limits in §60.102a(c) shall establish the limits based on the performance test results using the procedures in paragraphs (g)(1) and (2) of this section.

(1) Reduce the temperature and O2concentrations from the parameter monitoring systems to hourly averages for each test run.

(2) Determine the operating limit for temperature and O2concentrations as the average of the average temperature and O2concentration for the three test runs.

(h) The owner or operator shall determine compliance with the SO2and H2S emissions limits for sulfur recovery plants in §§60.102a(f)(1)(i), 60.102a(f)(1)(iii), 60.102a(f)(1)(iii), 60.102a(f)(2)(i), and 60.102a(f)(2)(iii) and the reduced sulfur compounds and H2S emissions limits for sulfur recovery plants in §60.102a(f)(1)(ii) and §60.102a(f)(2)(ii) using the following methods and procedures:

(1) Method 1 of appendix A–1 to part 60 for sample and velocity traverses.

(2) Method 2 of appendix A–1 to part 60 for velocity and volumetric flow rate.

(3) Method 3, 3A, or 3B of appendix A–2 to part 60 for gas analysis. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(4) Method 6, 6A, or 6C of appendix A–4 to part 60 to determine the SO2concentration. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A–4 to part 60.

(5) Method 15 or 15A of appendix A–5 to part 60 or Method 16 of appendix A–6 to part 60 to determine the reduced sulfur compounds and H2S concentrations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(i) Each run consists of 16 samples taken over a minimum of 3 hours.

(ii) The owner or operator shall calculate the average H2S concentration after correcting for moisture and O2as the arithmetic average of the H2S concentration for each sample during the run (ppmv, dry basis, corrected to 0 percent excess air).

(iii) The owner or operator shall calculate the SO2equivalent for each run after correcting for moisture and O2as the arithmetic average of the SO2equivalent of reduced sulfur compounds for each sample during the run (ppmv, dry basis, corrected to 0 percent excess air).

(iv) The owner or operator shall use Equation 6 of this section to adjust pollutant concentrations to 0 percent O2or 0 percent excess air.

(i) The owner or operator shall determine compliance with the SO2and NOXemissions limits in §60.102a(g) for a fuel gas combustion device according to the following test methods and procedures:

(1) Method 1 of appendix A–1 to part 60 for sample and velocity traverses;

(2) Method 2 of appendix A–1 to part 60 for velocity and volumetric flow rate;

(3) Method 3, 3A, or 3B of appendix A–2 to part 60 for gas analysis. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60;

(4) Method 6, 6A, or 6C of appendix A–4 to part 60 to determine the SO_2concentration. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A–4 to part 60.

(i) The performance test consists of 3 valid test runs; the duration of each test run must be no less than 1 hour.

(ii) If a single fuel gas combustion device having a common source of fuel gas is monitored as allowed under §60.107a(a)(1)(v), only one performance test is required. That is, performance tests are not required when a new affected fuel gas combustion device is added to a common source of fuel gas that previously demonstrated compliance.

(5) Method 7, 7A, 7C, 7D, or 7E of appendix A–4 to part 60 for moisture content and for the concentration of NOXcalculated as NO2; the duration of each test run must be no less than 4 hours. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A–4 to part 60.

(j) The owner or operator shall determine compliance with the H2S emissions limit in §60.102a(g) for a fuel gas combustion device according to the following test methods and procedures:

(1) Method 1 of appendix A–1 to part 60 for sample and velocity traverses;

(2) Method 2 of appendix A–1 to part 60 for velocity and volumetric flow rate;

(3) Method 3, 3A, or 3B of appendix A–2 to part 60 for gas analysis. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60;

(4) Method 11, 15, or 15A of appendix A–5 to part 60 or Method 16 of appendix A–6 to part 60 for determining the H_2S concentration for affected plants using an H_2S monitor as specified in §60.107a(a)(2). The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60. The owner or operator may demonstrate compliance based on the mixture used in the fuel gas combustion device or for each individual fuel gas stream used in the fuel gas combustion device.

(i) For Method 11 of appendix A–5 to part 60, the sampling time and sample volume must be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times must be taken at about 1-hour intervals. The arithmetic average of these two samples constitutes a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H2S may necessitate sampling for longer periods of time.

(ii) For Method 15 of appendix A–5 to part 60, at least three injects over a 1-hour period constitutes a run.

(iii) For Method 15A of appendix A–5 to part 60, a 1-hour sample constitutes a run. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(iv) If monitoring is conducted at a single point in a common source of fuel gas as allowed under §60.107a(a)(2)(iv), only one performance test is required. That is, performance tests are not required when a new affected fuel gas combustion device is added to a common source of fuel gas that previously demonstrated compliance.

§ 60.105a Monitoring of emissions and operations for fluid catalytic cracking units (FCCU) and fluid coking units (FCU).

(a) *FCCU and FCU subject to PM emissions limit* . Each owner or operator subject to the provisions of this subpart shall monitor each FCCU and FCU subject to the PM emissions limit in §60.102a(b)(1) according to the requirements in paragraph (b), (c), (d), or (e) of this section.

(b) *Control device operating parameters* . Each owner or operator of a FCCU or FCU subject to the PM per coke burn-off emissions limit in §60.102a(b)(1) shall comply with the requirements in paragraphs (b)(1) through (3) of this section.

(1) The owner or operator shall install, operate, and maintain continuous parameter monitor systems (CPMS) to measure and record operating parameters for each control device according to the requirements in paragraph (b)(1)(i) through (iii) of this section.

(i) For units controlled using an electrostatic precipitator, the owner or operator shall use CPMS to measure and record the hourly average total power input and secondary voltage to the entire system.

(ii) For units controlled using a wet scrubber, the owner or operator shall use CPMS to measure and record the hourly average pressure drop, liquid feed rate, and exhaust gas flow rate. As an alternative to a CPMS, the owner or operator must comply with the requirements in either paragraph (b)(1)(ii)(A) or (B) of this section.

(A) As an alterative to pressure drop, the owner or operator of a jet ejector type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles must conduct a daily check of the air or water pressure to the spray nozzles and record the results of each check.

(B) As an alternative to exhaust gas flow rate, the owner or operator shall comply with the approved alternative for monitoring exhaust gas flow rate in 40 CFR 63.1573(a) of the National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units.

(iii) The owner or operator shall install, operate, and maintain each CPMS according to the manufacturer's specifications and requirements.

(iv) The owner or operator shall determine and record the average coke burn-off rate and hours of operation for each FCCU or FCU using the procedures in §60.104a(d)(4)(iii).

(v) If you use a control device other than an electrostatic precipitator, wet scrubber, fabric filter, or cyclone, you may request approval to monitor parameters other than those required in paragraph (b)(1) of this section by submitting an alternative monitoring plan to the Administrator. The request must include the information in paragraphs (b)(1)(v)(A) through (E) of this section.

(A) A description of each affected facility and the parameter(s) to be monitored to determine whether the affected facility will continuously comply with the emission limitations and an explanation of the criteria used to select the parameter(s).

(B) A description of the methods and procedures that will be used to demonstrate that the parameter(s) can be used to determine whether the affected facility will continuously comply with the emission limitations and the schedule for this demonstration. The owner or operator must certify that an operating limit will be established for the monitored parameter(s) that represents the conditions in existence when the control device is being properly operated and maintained to meet the emission limitation.

(C) The frequency and content of the recordkeeping, recording, and reporting, if monitoring and recording are not continuous. The owner or operator also must include the rationale for the proposed monitoring, recording, and reporting requirements.

(D) Supporting calculations.

(E) Averaging time for the alternative operating parameter.

(2) For use in determining the coke burn-off rate for an FCCU or FCU, the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring the concentrations of CO_2, O_2(dry basis), and if needed, CO in the exhaust gases prior to any control or energy recovery system that burns auxiliary fuels.

(i) The owner or operator shall install, operate, and maintain each monitor according to Performance Specification 3 of appendix B to part 60.

(ii) The owner or operator shall conduct performance evaluations of each CO_2, O_2, and CO monitor according to the requirements in §60.13(c) and Performance Specification 3 of appendix B to part 60. The owner or operator shall use Method 3 of appendix A–3 to part 60 for conducting the relative accuracy evaluations.

(iii) The owner or operator shall comply with the quality assurance requirements of procedure 1 of appendix F to part 60, including quarterly accuracy determinations for $CO_2$and CO monitors, annual accuracy determinations for O_2monitors, and daily calibration drift tests.

(c) *Bag leak detection systems* . Each owner or operator shall install, operate, and maintain a bag leak detection system for each baghouse or similar fabric filter control device that is used to comply with the PM per coke burn-off emissions limit in §60.102a(b)(1) for an FCCU or FCU according to paragraph (c)(1) of this section; prepare and operate by a site-specific monitoring plan according to paragraph (c)(2) of this section; take action according to paragraph (c)(3) of this section; and record information according to paragraph (c)(4) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 0.00044 grains per actual cubic foot or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(1)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) The owner or operator shall install the bag leak detection sensor downstream of the baghouse and upstream of any wet scrubber.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator shall develop and submit to the Administrator for approval a site-specific monitoring plan for each baghouse and bag leak detection system. The owner or operator shall operate and maintain each baghouse and bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vii) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored;

(vi) Procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable; and

(vii) How the baghouse system will be operated and maintained, including monitoring of pressure drop across baghouse cells and frequency of visual inspections of the baghouse interior and baghouse components such as fans and dust removal and bag cleaning mechanisms.

(3) For each bag leak detection system, the owner or operator shall initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, the owner or operator shall alleviate the cause of the alarm within 3 hours of the alarm by taking whatever action(s) are necessary. Actions may include, but are not limited to the following:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective baghouse compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the particulate emissions.

(4) The owner or operator shall maintain records of the information specified in paragraphs (c)(4)(i) through (iii) of this section for each bag leak detection system.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.

(d) *Continuous emissions monitoring systems (CEMS)* . An owner or operator subject to the PM concentration emission limit (in gr/dscf) in §60.102a(b)(1) for an FCCU or FCU shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration (0 percent excess air) of PM in the exhaust gases prior to release to the atmosphere. The monitor must include an O_2monitor for correcting the data for excess air.

(1) The owner or operator shall install, operate, and maintain each PM monitor according to Performance Specification 11 of appendix B to part 60. The span value of this PM monitor is 0.08 gr/dscf PM.

(2) The owner or operator shall conduct performance evaluations of each PM monitor according to the requirements in §60.13(c) and Performance Specification 11 of appendix B to part 60. The owner or operator shall use EPA Methods 5 or 5I of appendix A–3 to part 60 or Method 17 of appendix A–6 to part 60 for conducting the relative accuracy evaluations.

(3) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60. The span value of this O_2monitor must be selected between 10 and 25 percent, inclusive.

(4) The owner or operator shall conduct performance evaluations of each O_2monitor according to the requirements in §60.13(c) and Performance Specification 3 of appendix B to part 60. Method 3, 3A, or 3B of appendix A–2 to part 60 shall be used for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(5) The owner or operator shall comply with the quality assurance requirements of Procedure 2 of appendix B to part 60 for each PM CEMS and Procedure 1 of appendix F to part 60 for each O_2monitor, including quarterly accuracy determinations for each PM monitor, annual accuracy determinations for each O_2monitor, and daily calibration drift tests.

(e) *Alternative monitoring option for FCCU and FCU—COMS* . Each owner or operator of an FCCU or FCU that uses cyclones to comply with the PM emission limit in §60.102a(b)(1) shall monitor the opacity of emissions according to the requirements in paragraphs (e)(1) through (3) of this section.

(1) The owner or operator shall install, operate, and maintain an instrument for continuously monitoring and recording the opacity of emissions from the FCCU or the FCU exhaust vent.

(2) The owner or operator shall install, operate, and maintain each COMS according to Performance Specification 1 of appendix B to part 60. The instrument shall be spanned at 20 to 60 percent opacity.

(3) The owner or operator shall conduct performance evaluations of each COMS according to §60.13(c) and Performance Specification 1 of appendix B to part 60.

(f) *FCCU and FCU subject to NO* X *limit* . Each owner or operator subject to the NO_Xemissions limit in §60.102a(b)(2) for an FCCU or FCU shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis, 0 percent excess air) of NO_Xemissions into the atmosphere. The monitor must include an O_2monitor for correcting the data for excess air.

(1) The owner or operator shall install, operate, and maintain each NO_Xmonitor according to Performance Specification 2 of appendix B to part 60. The span value of this NO_Xmonitor is 200 ppmv NO_X.

(2) The owner or operator shall conduct performance evaluations of each NO_Xmonitor according to the requirements in §60.13(c) and Performance Specification 2 of appendix B to part 60. The owner or operator shall use Methods 7, 7A, 7C, 7D, or 7E of appendix A–4 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A–4 to part 60.

(3) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60. The span value of this O_2monitor must be selected between 10 and 25 percent, inclusive.

(4) The owner or operator shall conduct performance evaluations of each O_2monitor according to the requirements in §60.13(c) and Performance Specification 3 of appendix B to part 60. Method 3, 3A, or 3B of appendix A–2 to part 60 shall be used for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(5) The owner or operator shall comply with the quality assurance requirements of Procedure 1 of appendix F to part 60 for each $NO_X$and O_2monitor, including quarterly accuracy determinations for NO_Xmonitors, annual accuracy determinations for O_2monitors, and daily calibration drift tests.

(g) *FCCU and FCU subject to SO* 2 *limit* . The owner or operator subject to the SO_2emissions limit in §60.102a(b)(3) for an FCCU or an FCU shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0 percent excess air) of SO_2emissions into the atmosphere. The monitor shall include an O_2monitor for correcting the data for excess air.

(1) The owner or operator shall install, operate, and maintain each SO_2monitor according to Performance Specification 2 of appendix B to part 60. The span value of this SO_2monitor is 200 ppmv SO_2.

(2) The owner or operator shall conduct performance evaluations of each SO_2monitor according to the requirements in §60.13(c) and Performance Specification 2 of appendix B to part 60. The owner or operator shall use Methods 6, 6A, or 6C of appendix A–4 to part 60 for conducting the relative accuracy evaluations. The method ANSI / ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,”

(incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A–4 to part 60.

(3) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60. The span value of this O_2monitor must be selected between 10 and 25 percent, inclusive.

(4) The owner or operator shall conduct performance evaluations of each O_2monitor according to the requirements in §60.13(c) and Performance Specification 3 of appendix B to part 60. Method 3, 3A, or 3B of appendix A–2 to part 60 shall be used for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(5) The owner or operator shall comply with the quality assurance requirements in Procedure 1 of appendix F to part 60 for each $SO_2$and O_2monitor, including quarterly accuracy determinations for SO_2monitors, annual accuracy determinations for O_2monitors, and daily calibration drift tests.

(h) *FCCU and fluid coking units subject to CO emissions limit* . Except as specified in paragraph (h)(3) of this section, the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of CO emissions into the atmosphere from each FCCU and FCU subject to the CO emissions limit in §60.102a(b)(4).

(1) The owner or operator shall install, operate, and maintain each CO monitor according to Performance Specification 4 or 4A of appendix B to part 60. The span value for this instrument is 1,000 ppm CO.

(2) The owner or operator shall conduct performance evaluations of each CO monitor according to the requirements in §60.13(c) and Performance Specification 4 or 4A of appendix B to part 60. The owner or operator shall use Methods 10, 10A, or 10B of appendix A–4 to part 60 for conducting the relative accuracy evaluations.

(3) A CO CEMS need not be installed if the owner or operator demonstrates that all hourly average CO emissions are and will remain less than 50 ppmv (dry basis) corrected to 0 percent excess air. The Administrator may revoke this exemption from monitoring upon a determination that CO emissions on an hourly average basis have exceeded 50 ppmv (dry basis) corrected to 0 percent excess air, in which case a CO CEMS shall be installed within 180 days.

(i) The demonstration shall consist of continuously monitoring CO emissions for 30 days using an instrument that meets the requirements of Performance Specification 4 or 4A of appendix B to part 60. The span value shall be 100 ppm CO instead of 1,000 ppm, and the relative accuracy limit shall be 10 percent of the average CO emissions or 5 ppm CO, whichever is greater. For instruments that are identical to Method 10 of appendix A–4 to part 60 and employ the sample conditioning system of Method 10A of appendix A–4 to part 60, the alternative relative accuracy test procedure in section 10.1 of Performance Specification 2 of appendix B to part 60 may be used in place of the relative accuracy test.

(ii) The owner or operator must submit the following information to the Administrator:

(A) The measurement data specified in paragraph (h)(3)(i) of this section along with all other operating data known to affect CO emissions; and

(B) Descriptions of the CPMS for exhaust gas temperature and O_2monitor required in paragraph (h)(4) of this section and operating limits for those parameters to ensure combustion conditions remain similar to those that exist during the demonstration period.

(iii) The effective date of the exemption from installation and operation of a CO CEMS is the date of submission of the information and data required in paragraph (h)(3)(ii) of this section.

(4) The owner or operator of a FCCU or FCU that is exempted from the requirement to install and operate a CO CEMS in paragraph (h)(3) of this section shall install, operate, calibrate, and maintain CPMS to measure and record the operating parameters in paragraph (h)(4)(i) or (ii) of this section. The owner or operator shall install, operate, and maintain each CPMS according to the manufacturer's specifications.

(i) For a FCCU or FCU with no post-combustion control device, the temperature and O_2concentration of the exhaust gas stream exiting the unit.

(ii) For a FCCU or FCU with a post-combustion control device, the temperature and O_2concentration of the exhaust gas stream exiting the control device.

(i) *Excess emissions* . For the purpose of reports required by §60.7(c), periods of excess emissions for a FCCU or FCU subject to the emissions limitations in §60.102a(b) are defined as specified in paragraphs (i)(1) through (6) of this section. Note: Determine all averages, except for opacity, as the arithmetic average of the applicable 1-hour averages, *e.g.* , determine the rolling 3-hour average as the arithmetic average of three contiguous 1-hour averages.

(1) If a CPMS is used according to §60.105a(b)(1), all 3-hour periods during which the average PM control device operating characteristics, as measured by the continuous monitoring systems under §60.105a(b)(1), fall below the levels established during the performance test.

(2) If a PM CEMS is used according to §60.105a(d), all 7-day periods during which the average PM emission rate, as measured by the continuous PM monitoring system under §60.105a(d) exceeds 0.040 gr/dscf corrected to 0 percent excess air for a modified or reconstructed FCCU, 0.020 gr/dscf corrected to 0 percent excess air for a newly constructed FCCU, or 0.040 gr/dscf for an affected fluid coking unit.

(3) If a COMS is used according to §60.105a(e), all 3-hour periods during which the average opacity, as measured by the COMS under §60.105a(e), exceeds the site-specific limit established during the most recent performance test.

(4) All rolling 7-day periods during which the average concentration of NO_Xas measured by the NO_XCEMS under §60.105a(f) exceeds 80 ppmv for an affected FCCU or FCU.

(5) Except as provided in paragraph (i)(7) of this section, all rolling 7-day periods during which the average concentration of SO_2as measured by the SO_2CEMS under §60.105a(g) exceeds 50 ppmv, and all rolling 365-day periods during which the average concentration of SO_2as measured by the SO_2CEMS exceeds 25 ppmv.

(6) All 1-hour periods during which the average CO concentration as measured by the CO continuous monitoring system under §1A60.105a(h) exceeds 500 ppmv or, if applicable, all 1-hour periods during which the average temperature and O_2concentration as measured by the continuous monitoring systems under §60.105a(h)(4) fall below the operating limits established during the performance test.

§ 60.106a Monitoring of emissions and operations for sulfur recovery plants.

(a) The owner or operator of a sulfur recovery plant that is subject to the emissions limits in §60.102a(f)(1) or §60.102a(f)(2) shall:

(1) For sulfur recovery plants subject to the SO_2emission limit in §60.102a(f)(1)(i) or §60.102a(f)(2)(i), the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring

and recording the concentration (dry basis, zero percent excess air) of any SO_2emissions into the atmosphere. The monitor shall include an oxygen monitor for correcting the data for excess air.

(i) The span values for this monitor are two times the applicable SO_2emission limit and between 10 and 25 percent O_2, inclusive.

(ii) The owner or operator shall install, operate, and maintain each SO_2CEMS according to Performance Specification 2 of appendix B to part 60.

(iii) The owner or operator shall conduct performance evaluations of each SO_2monitor according to the requirements in §60.13(c) and Performance Specification 2 of appendix B to part 60. The owner or operator shall use Methods 6 or 6C of appendix A–4 to part 60 and Method 3 or 3A of appendix A–2 of part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6.

(2) For sulfur recovery plants that are subject to the reduced sulfur compound and H_2S emission limit in §60.102a(f)(1)(ii) or §60.102a(f)(2)(ii), the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of reduced sulfur, H_2S, and O_2emissions into the atmosphere. The reduced sulfur emissions shall be calculated as SO_2(dry basis, zero percent excess air).

(i) The span values for this monitor are two times the applicable reduced sulfur emission limit, two times the H_2S emission limit, and between 10 and 25 percent O_2, inclusive.

(ii) The owner or operator shall install, operate, and maintain each reduced sulfur CEMS according to Performance Specification 5 of appendix B to part 60.

(iii) The owner or operator shall conduct performance evaluations of each reduced sulfur monitor according to the requirements in §60.13(c) and Performance Specification 5 of appendix B to part 60. The owner or operator shall use Methods 15 or 15A of appendix A–5 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(iv) The owner or operator shall install, operate, and maintain each H_2S CEMS according to Performance Specification 7 of appendix B to part 60.

(v) The owner or operator shall conduct performance evaluations of each reduced sulfur monitor according to the requirements in §60.13(c) and Performance Specification 5 of appendix B to part 60. The owner or operator shall use Methods 11, 15, or 15A of appendix A–5 to part 60 or Method 16 of appendix A–6 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(vi) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60.

(vii) The span value for the O_2monitor must be selected between 10 and 25 percent, inclusive.

(viii) The owner or operator shall conduct performance evaluations for the O_2monitor according to the requirements of §60.13(c) and Performance Specification 3 of appendix B to part 60. The owner or operator shall use Methods 3, 3A, or 3B of appendix A–2 to part 60 for conducting the relative accuracy

evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(ix) The owner or operator shall comply with the applicable quality assurance procedures of appendix F to part 60 for each monitor, including annual accuracy determinations for each O_2monitor, and daily calibration drift determinations.

(3) In place of the reduced sulfur monitor required in paragraph (a)(2) of this section, the owner or operator shall install, calibrate, operate, and maintain an instrument using an air or O_2dilution and oxidation system to convert any reduced sulfur to $SO_2$for continuously monitoring and recording the concentration (dry basis, 0 percent excess air) of the total resultant SO_2. The monitor must include an O_2monitor for correcting the data for excess O_2.

(i) The span value for this monitor is two times the applicable SO_2emission limit.

(ii) The owner or operator shall conduct performance evaluations of each SO_2monitor according to the requirements in §60.13(c) and Performance Specification 5 of appendix B to part 60. The owner or operator shall use Methods 15 or 15A of appendix A–5 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(iii) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60.

(iv) The span value for the O_2monitor must be selected between 10 and 25 percent, inclusive.

(v) The owner or operator shall conduct performance evaluations for the O_2monitor according to the requirements of §60.13(c) and Performance Specification 3 of appendix B to part 60. The owner or operator shall use Methods 3, 3A, or 3B of appendix A–2 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(vi) The owner or operator shall comply with the applicable quality assurance procedures of appendix F to part 60 for each monitor, including quarterly accuracy determinations for each SO_2monitor, annual accuracy determinations for each O_2monitor, and daily calibration drift determinations.

(b) *Excess emissions* . For the purpose of reports required by §60.7(c), periods of excess emissions for sulfur recovery plants subject to the emissions limitations in §60.102a(f) are defined as specified in paragraphs (b)(1) through (3) of this section.Note:Determine all averages as the arithmetic average of the applicable 1-hour averages, e.g., determine the rolling 12-hour average as the arithmetic average of 12 contiguous 1-hour averages.

(1) All 12-hour periods during which the average concentration of SO_2as measured by the SO_2continuous monitoring system required under paragraph (a)(1) of this section exceeds the applicable emission limit (dry basis, zero percent excess air); or

(2) All 12-hour periods during which the average concentration of reduced sulfur (as SO_2) as measured by the reduced sulfur continuous monitoring system required under paragraph (a)(2) of this section exceeds the applicable emission limit; or

(3) All 12-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system required under paragraph (a)(2) of this section exceeds the applicable emission limit (dry basis, 0 percent excess air).

§ 60.107a Monitoring of emissions and operations for fuel gas combustion devices.

(a) *Fuel gas combustion devices subject to SO* 2 *or H* 2 *S limit.* The owner or operator of a fuel gas combustion device that is subject to the requirements in §60.102a(g) shall comply with the requirements in paragraph (a)(1) of this section for SO_2emissions or paragraph (a)(2) of this section for H_2S emissions.

(1) The owner or operator of a fuel gas combustion device subject to the SO_2emissions limits in §60.102a(g)(1)(i) shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0 percent excess air) of SO_2emissions into the atmosphere. The monitor must include an O_2monitor for correcting the data for excess air.

(i) The owner or operator shall install, operate, and maintain each SO_2monitor according to Performance Specification 2 of appendix B to part 60. The span value for the SO_2monitor is 50 ppm SO_2.

(ii) The owner or operator shall conduct performance evaluations for the SO_2monitor according to the requirements of §60.13(c) and Performance Specification 2 of appendix B to part 60. The owner or operator shall use Methods 6, 6A, or 6C of appendix A–4 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A–4 to part 60. Samples taken by Method 6 of appendix A–4 to part 60 shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

(iii) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60. The span value for the O_2monitor must be selected between 10 and 25 percent, inclusive.

(iv) The owner or operator shall conduct performance evaluations for the O_2monitor according to the requirements of §60.13(c) and Performance Specification 3 of appendix B to part 60. The owner or operator shall use Methods 3, 3A, or 3B of appendix A–2 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(v) The owner or operator shall comply with the applicable quality assurance procedures in appendix F to part 60, including quarterly accuracy determinations for SO_2monitors, annual accuracy determinations for O_2monitors, and daily calibration drift tests.

(vi) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2emissions into the atmosphere from each of the combustion devices.

(2) The owner or operator of a fuel gas combustion device subject to the H_2S concentration limits in §60.102a(g)(1)(ii) shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H_2S in the fuel gases before being burned in any fuel gas combustion device.

(i) The owner or operator shall install, operate, and maintain each H_2S monitor according to Performance Specification 7 of appendix B to part 60. The span value for this instrument is 320 ppmv H_2S.

(ii) The owner or operator shall conduct performance evaluations for each H_2S monitor according to the requirements of §60.13(c) and Performance Specification 7 of appendix B to part 60. The owner or operator shall use Method 11, 15, or 15A of appendix A–5 to part 60 or Method 16 of appendix A–6 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue

and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(iii) The owner or operator shall comply with the applicable quality assurance procedures in appendix F to part 60 for each H_2S monitor.

(iv) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas being burned.

(3) The owner or operator of a fuel gas combustion device is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §60.102a(h) and fuel gas streams combusted in a process heater or other fuel gas combustion device that are inherently low in sulfur content. Fuel gas streams meeting one of the requirements in paragraphs (a)(3)(i) through (iv) of this section will be considered inherently low in sulfur content.

(i) Pilot gas for heaters and flares.

(ii) Fuel gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less. In the case of a liquefied petroleum gas (LPG) product specification in the pressurized liquid state, the gas phase sulfur content should be evaluated assuming complete vaporization of the LPG and sulfur containing-compounds at the product specification concentration.

(iii) Fuel gas streams produced in process units that are intolerant to sulfur contamination, such as fuel gas streams produced in the hydrogen plant, catalytic reforming unit, isomerization unit, and HF alkylation process units.

(iv) Other fuel gas streams that an owner or operator demonstrates are low-sulfur according to the procedures in paragraph (b) of this section.

(4) If the composition of an exempt fuel gas stream changes, the owner or operator must follow the procedures in paragraph (b)(3) of this section.

(b) *Exemption from H* 2 *S monitoring requirements for low-sulfur fuel gas streams.* The owner or operator of a fuel gas combustion device may apply for an exemption from the H_2S monitoring requirements in paragraph (a)(2) of this section for a fuel gas stream that is inherently low in sulfur content. A fuel gas stream that is demonstrated to be low-sulfur is exempt from the monitoring requirements of paragraphs (a)(1) and (2) of this section until there are changes in operating conditions or stream composition.

(1) The owner or operator shall submit to the Administrator a written application for an exemption from monitoring. The application must contain the following information:

(i) A description of the fuel gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the fuel gas stream/system, and the affected fuel gas combustion device(s) to be considered;

(ii) A statement that there are no crossover or entry points for sour gas (high H_2S content) to be introduced into the fuel gas stream/system (this should be shown in the piping diagrams);

(iii) An explanation of the conditions that ensure low amounts of sulfur in the fuel gas stream (i.e., control equipment or product specifications) at all times;

(iv) The supporting test results from sampling the requested fuel gas stream/system demonstrating that the sulfur content is less than 5 ppm H_2S. Sampling data must include, at minimum, 2 weeks of daily monitoring (14 grab samples) for frequently operated fuel gas streams/systems; for infrequently operated fuel gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling. The owner or operator shall use detector tubes ("length-of-stain tube" type measurement) following the "Gas Processors Association Standard 2377–86, Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes," 1986 Revision (incorporated by reference—see §60.17), with ranges 0–10/0–100 ppm (N = 10/1) to test the applicant fuel gas stream for H_2S; and

(v) A description of how the 2 weeks (or seven samples for infrequently operated fuel gas streams/systems) of monitoring results compares to the typical range of H_2S concentration (fuel quality) expected for the fuel gas stream/system going to the affected fuel gas combustion device (e.g., the 2 weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out, and, therefore, should be representative of typical operating conditions affecting H_2S content in the fuel gas stream going to the loading rack flare).

(2) The effective date of the exemption is the date of submission of the information required in paragraph (b)(1) of this section.

(3) No further action is required unless refinery operating conditions change in such a way that affects the exempt fuel gas stream/system (e.g., the stream composition changes). If such a change occurs, the owner or operator shall follow the procedures in paragraph (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.

(i) If the operation change results in a sulfur content that is still within the range of concentrations included in the original application, the owner or operator shall conduct an H_2S test on a grab sample and record the results as proof that the concentration is still within the range.

(ii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application, the owner or operator may submit new information following the procedures of paragraph (b)(1) of this section within 60 days (or within 30 days after the seventh grab sample is tested for infrequently operated process units).

(iii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application, and the owner or operator chooses not to submit new information to support an exemption, the owner or operator must begin H_2S monitoring using daily stain sampling to demonstrate compliance. The owner or operator must begin monitoring according to the requirements in paragraphs (a)(1) or (a)(2) of this section as soon as practicable but in no case later than 180 days after the operation change. During daily stain tube sampling, a daily sample exceeding 162 ppmv is an exceedance of the 3-hour H_2S concentration limit. The owner or operator must determine a rolling 365-day average using the stain sampling results; an average H_2S concentration of 5 ppmv must be used for days prior to the operation change.

(c) *Process heaters subject to NO* X *limit.* The owner or operator of a process heater subject to the NO_Xemission limit in §60.102a(g)(2) shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0 percent excess air) of NO_Xemissions into the atmosphere. The monitor must include an O_2monitor for correcting the data for excess air.

(1) The owner or operator shall install, operate, and maintain each NO_Xmonitor according to Performance Specification 2 of appendix B to part 60. The span value of this NO_Xmonitor is 200 ppmv NO_X.

(2) The owner or operator shall conduct performance evaluations of each NO_Xmonitor according to the requirements in §60.13(c) and Performance Specification 2 of appendix B to part 60. The owner or

operator shall use Methods 7, 7A, 7C, 7D, or 7E of appendix A–4 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A–4 to part 60.

(3) The owner or operator shall install, operate, and maintain each O_2monitor according to Performance Specification 3 of appendix B to part 60. The span value of this O_2monitor must be selected between 10 and 25 percent, inclusive.

(4) The owner or operator shall conduct performance evaluations of each O_2monitor according to the requirements in §60.13(c) and Performance Specification 3 of appendix B to part 60. Method 3, 3A, or 3B of appendix A–2 to part 60 shall be used for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to part 60.

(5) The owner or operator shall comply with the quality assurance requirements in Procedure 1 of appendix F to part 60 for each $NO_X$and O_2monitor, including quarterly accuracy determinations for NO_Xmonitors, annual accuracy determinations for O_2monitors, and daily calibration drift tests.

(6) The owner or operator of a process heater that has a rated heating capacity of less than 100 MMBtu and is equipped with low-NO_Xburners (LNB) or ultra low-NO_Xburners (ULNB) is not subject to the monitoring requirements in paragraphs (c)(1) through (5) of this section. The owner or operator of such a process heater must conduct biennial performance tests to demonstrate compliance.

(d) *Sulfur monitoring for affected flares* . The owner or operator of an affected flare subject to §60.103a(b) shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of reduced sulfur in flare gas. The owner or operator of a modified flare shall install this instrument by no later than 1 year after the flare becomes an affected flare subject to this subpart.

(1) The owner or operator shall install, operate, and maintain each reduced sulfur CEMS according to Performance Specification 5 of appendix B to part 60.

(2) The owner or operator shall conduct performance evaluations of each reduced sulfur monitor according to the requirements in §60.13(c) and Performance Specification 5 of appendix B to part 60. The owner or operator shall use Methods 15 or 15A of appendix A–5 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

(3) The owner or operator shall comply with the applicable quality assurance procedures in appendix F to part 60 for each reduced sulfur monitor.

(e) *Flow monitoring for flares* . The owner or operator of an affected flare subject to §60.102a(g)(3) shall install, operate, calibrate, and maintain CPMS to measure and record the exhaust gas flow rate. The owner or operator of a modified flare shall install this instrument by no later than 1 year after the flare becomes an affected flare subject to this subpart.

(1) The CPMS must be able to correct for the temperature and pressure of the system and output flow in standard conditions as defined in §60.2.

(2) The owner or operator shall install, operate, and maintain each CPMS according to the manufacturer's specifications and requirements.

(f) *Excess emissions* . For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) are defined as specified in paragraphs (f)(1) through (4) of this section.Note:Determine all averages as the arithmetic average of the applicable 1-hour averages, e.g., determine the rolling 3-hour average as the arithmetic average of three contiguous 1-hour averages.

(1) All rolling 3-hour periods during which the average concentration of SO_2as measured by the SO_2continuous monitoring system required under paragraph (a)(1) of this section exceeds 20 ppmv, and all rolling 365-day periods during which the average concentration as measured by the SO_2continuous monitoring system required under paragraph (a)(1) of this section exceeds 8 ppmv; or

(2) All rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system required under paragraph (a)(2) of this section exceeds 162 ppmv, all days in which the concentration of H_2S as measured by daily stain tube sampling required under paragraph (b)(3)(iii) of this section exceeds 162 ppmv, and all rolling 365-day periods during which the average concentration as measured by the H_2S continuous monitoring system under paragraph (a)(2) of this section exceeds 60 ppmv.

(3) All rolling 24-hour periods during which the average concentration of NO_Xas measured by the NO_Xcontinuous monitoring system required under paragraph (c) of this section exceeds 40 ppmv.

(4) All rolling 30-day periods during which the average flow rate to an affected flare as measured by the monitoring system required under paragraph (e) of this section exceeds 250,000 scfd.

Effective Date Note: At 73 FR 78552, Dec. 22, 2008, in §60.107a, paragraphs (d) and (e) were stayed from Feb. 24, 2009 until further notice.

§ 60.108a Recordkeeping and reporting requirements.

(a) Each owner or operator subject to the emissions limitations in §60.102a shall comply with the notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.

(b) Each owner or operator subject to an emissions limitation in §60.102a shall notify the Administrator of the specific monitoring provisions of §§60.105a, 60.106a, and 60.107a with which the owner or operator seeks to comply. Notification shall be submitted with the notification of initial startup required by §60.7(a)(3).

(c) The owner or operator shall maintain the following records:

(1) A copy of the flare management plan and each root cause analysis of a discharge;

(2) Records of information to document conformance with bag leak detection system operation and maintenance requirements in §60.105a(c).

(3) Records of bag leak detection system alarms and actions according to §60.105a(c).

(4) For each FCCU and fluid coking unit subject to the monitoring requirements in §60.105a(b)(1), records of the average coke burn-off rate and hours of operation.

(5) For each fuel gas stream to which one of the exemptions listed in §60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the owner or operator applies for the

exemption described in §60.107a(a)(3)(iv), the owner or operator must keep a copy of the application as well as the letter from the Administrator granting approval of the application.

(6) The owner or operator shall record and maintain records of discharges greater than 500 lb/day $SO_2$from any affected fuel gas combustion device or sulfur recovery plant and discharges to an affected flare in excess of 500,000 scfd. These records shall include:

(i) A description of the discharge.

(ii) For discharges greater than 500 lb/day SO_2, the date and time the discharge was first identified and the duration of the discharge.

(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices other than flares.

(iv) For discharges greater than 500 lb/day SO_2, the measured or estimated concentration of H_2S, TRS and $SO_2$of the stream discharged. Process knowledge can be used to make these estimates for fuel gas combustion devices other than flares.

(v) For discharges greater than 500 lb/day SO_2, the cumulative quantity of H_2S and SO_2released into the atmosphere. For releases controlled by flares, assume 99 percent conversion of reduced sulfur to SO_2. For other fuel gas combustion devices, assume 99 percent conversion of H_2S to SO_2.

(vi) Results of any root-cause analysis conducted as required in §60.103a(a)(4) and §60.103a(b).

(d) Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

(1) The date that the exceedance occurred;

(2) An explanation of the exceedance;

(3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and

(4) A description of the action taken, if any.

(5) A root-cause summary report that provides the information described in paragraph (e)(6) of this section for all discharges for which a root-cause analysis was required by §60.103a(a)(4) and §60.103a(b).

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

§ 60.109a Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency, the approval authorities contained in paragraphs (b)(1) through (3) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) Approval of a major change to test methods under §60.8(b). A “major change to test method” is defined in 40 CFR 63.90.

(2) Approval of a major change to monitoring under §60.13(i). A “major change to monitoring” is defined in 40 CFR 63.90.

(3) Approval of a major change to recordkeeping/reporting under §60.7(b) through (f). A “major change to recordkeeping/reporting” is defined in 40 CFR 63.90.

SECTION E.19 40 CFR 60, Subpart Dc—New Source Performance Standards - Small Industrial-Commercial-Institutional Steam Generating Units

E.19.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR Part 60, Subpart Dc.

E.19.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall comply with the provisions of Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, which are incorporated by reference as 326 IAC 12, as specified as follows:

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO_2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_Xstandards under this subpart and the SO_2standards under subpart J or subpart Ja of this part, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the

combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see §60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see §60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO_2control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO_2emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO_2emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Wet flue gas desulfurization technology means an SO_2control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO_2emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO_2standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO_2standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

SECTION E.20 40 CFR Part 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants For Industrial, Commercial, and Institutional Boilers and Process Heaters

[RESERVED]

SECTION E.21 40 CFR 63, Subpart GGGGG—National Emission Standards for Hazardous Air Pollutants: Site Remediation

E.21.1 General Provisions Relating to NESHAP Subpart GGGGG [40 CFR Part 63, Subpart GGGGG] [326 IAC 20-1]

Pursuant to 40 CFR 63.7955, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, as specified in Table 3 of 40 CFR Part 63, Subpart GGGGG in accordance with the schedule in 40 CFR Part 63, Subpart GGGGG.

E.21.2 NESHAP Subpart GGGGG Requirements [40 CFR Part 63, Subpart GGGGG] [326 IAC 20-87]

The affected sources for the site remediation activities, including process vents, remediation material management units, and equipment components described in Section D.28 of this permit, are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Site Remediation, (40 CFR 63, Subpart GGGGG), effective October 8, 2003. Pursuant to this rule, the Permittee must comply with the provisions of 40 CFR 63, Subpart GGGGG, which are incorporated by reference in 326 IAC 20-87, on and after October 8, 2006

What This Subpart Covers

§ 63.7880 What is the purpose of this subpart?

This subpart establishes national emissions limitations and work practice standards for hazardous air pollutants (HAP) emitted from site remediation activities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emissions limitations and work practice standards.

§ 63.7881 Am I subject to this subpart?

(a) This subpart applies to you if you own or operate a facility at which you conduct a site remediation, as defined in §63.7957; and this site remediation, unless exempted under paragraph (b) or (c) of this section, meets all three of the following conditions specified in paragraphs (a)(1) through (3) of this section.

(1) Your site remediation cleans up a remediation material, as defined in §63.7957.

(2) Your site remediation is co-located at your facility with one or more other stationary sources that emit HAP and meet an affected source definition specified for a source category that is regulated by another subpart under 40 CFR part 63. This condition applies regardless whether or not the affected stationary source(s) at your facility is subject to the standards under the applicable subpart(s).

(3) Your facility is a major source of HAP as defined in §63.2, except as specified in paragraph (a)(3)(i) or (ii) of this section. A major source emits or has the potential to emit any single HAP at the rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

(i)

(ii)

(b) You are not subject to this subpart if your site remediation qualifies for any of one of the exemptions listed in paragraphs (b)(1) through (6) of this section.

(1) Your site remediation is not subject to this subpart if the site remediation only cleans up material that does not contain any of the HAP listed in Table 1 of this subpart.

(2) Your site remediation is not subject to this subpart if the site remediation will be performed under the authority of the Comprehensive Environmental Response and Compensation Liability Act (CERCLA) as a remedial action or a non time-critical removal action.

(3) Your site remediation is not subject to this subpart if the site remediation will be performed under a Resource Conservation and Recovery Act (RCRA) corrective action conducted at a treatment, storage and disposal facility (TSDF) that is either required by your permit issued by either the U.S. Environmental Protection Agency (EPA) or a State program authorized by the EPA under RCRA section 3006; required by orders authorized under RCRA; or required by orders authorized under RCRA section 7003.

(4)

(5)

(6) Your site remediation is not subject to this subpart if the site remediation is conducted at a research and development facility that meets the requirements under Clean Air Act (CAA) section 112(c)(7).

(c) Your site remediation activities are not subject to the requirements of this subpart, except for the recordkeeping requirements in this paragraph, provided that you meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) You determine that the total quantity of the HAP listed in Table 1 to this subpart that is contained in the remediation material excavated, extracted, pumped, or otherwise removed during all of the site remediations conducted at your facility is less than 1 megagram (Mg) annually. This exemption applies the 1 Mg limit on a facility-wide, annual basis, and there is no restriction to the number of site remediations that can be conducted during this period.

(2) You must prepare and maintain at your facility written documentation to support your determination that the total HAP quantity in your remediation materials for the year is less than 1 Mg. The documentation must include a description of your methodology and data used for determining the total HAP content of the remediation material.

(3) Your Title V permit does not have to be reopened or revised solely to include the recordkeeping requirement specified in paragraph (c)(2) of this section. However, the requirement must be included in your permit the next time the permit is renewed, reopened, or revised for another reason.

(d) Your site remediation is not subject to the requirements of this subpart if all remediation activities at your facility subject to this subpart are completed and you have notified the Administrator in writing that all remediation activities subject to this subpart are completed. You must maintain records of compliance, in accordance with §63.7953, for each remediation activity that was subject to this subpart. All future remediation activity meeting the applicability criteria in this section must comply with the requirements of this subpart.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69016, Nov. 29, 2006]

§ 63.7882 What site remediation sources at my facility does this subpart affect?

(a) This subpart applies to each new, reconstructed, or existing affected source for your site remediation as designated by paragraphs (a)(1) through (3) of this section.

(1) *Process vents.* The affected source is the entire group of process vents associated with the in-situ and ex-situ remediation processes used at your site to remove, destroy, degrade, transform, or immobilize hazardous substances in the remediation material subject to remediation. Examples of such in-situ

remediation processes include, but are not limited to, soil vapor extraction and bioremediation processes. Examples of such ex-situ remediation processes include but are not limited to, thermal desorption, bioremediation, and air stripping processes.

(2) *Remediation material management units.* Remediation material management unit means a tank, surface impoundment, container, oil-water separator, organic-water separator, or transfer system, as defined in §63.7957, and is used at your site to manage remediation material. The affected source is the entire group of remediation material management units used for the site remediations at your site. For the purpose of this subpart, a tank or container that is also equipped with a vent that serves as a process vent, as defined in §63.7957, is not a remediation material management unit, but instead this unit is considered to be a process vent affected source under paragraph (a)(1) of this section.

(3) *Equipment leaks.* The affected source is the entire group of equipment components (pumps, valves, etc.) used to manage remediation materials and meeting both of the conditions specified in paragraphs (a)(3)(i) and (ii) of this section. If either of these conditions do not apply to an equipment component, then that component is not part of the affected source for equipment leaks.

(i) The equipment component contains or contacts remediation material having a concentration of total HAP listed in Table 1 of this subpart equal to or greater than 10 percent by weight.

(ii) The equipment component is intended to operate for 300 hours or more during a calendar year in remediation material service, as defined in §63.7957.

(b) Each affected source for your site is existing if you commenced construction or reconstruction of the affected source before July 30, 2002.

(c) Each affected source for your site is new if you commenced construction or reconstruction of the affected source on or after July 30, 2002. An affected source is reconstructed if it meets the definition of reconstruction in §63.2.

§ 63.7883 When do I have to comply with this subpart?

(a) If you have an existing affected source, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than October 9, 2006.

(b) If you have a new affected source that manages remediation material other than a radioactive mixed waste as defined in §63.7957, then you must meet the compliance date specified in paragraph (b)(1) or (2) of this section, as applicable to your affected source.

(1) If the affected source's initial startup date is on or before October 8, 2003, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you by October 8, 2003.

(2) If the affected source's initial startup date is after October 8, 2003, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you upon initial startup.

(c) If you have a new affected source that manages remediation material that is a radioactive mixed waste as defined in §63.7957, then you must meet the compliance date specified in paragraph (c)(1) or (2) of this section, as applicable to your affected source.

(1) If the affected source's initial startup date is on or before October 8, 2003, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than October 9, 2006.

(2) If the affected source's initial startup date is after October 8, 2003, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you upon initial startup.

(d)

(e) You must meet the notification requirements, according to the schedule applicable to your facility, as specified in §63.7950 and in 40 CFR part 63, subpart A. Some of the notifications must be submitted before you are required to comply with the emissions limitations and work practice standards in this subpart.

General Standards
§ 63.7884 What are the general standards I must meet for each site remediation with affected sources?

(a) For each site remediation with an affected source designated under §63.7882, you must meet the standards specified in §§63.7885 through 63.7955, as applicable to your affected source, unless your site remediation meets the requirements for an exemption under paragraph (b) of this section.

(b) A site remediation that is completed within 30 consecutive calendar days according to the conditions in paragraphs (b)(1) through (3) of this section is not subject to the standards under paragraph (a) of this section. This exemption cannot be used for a site remediation involving the staged or intermittent cleanup of remediation material whereby the remediation activities at the site are started, stopped, and then re-started in a series of intervals, with durations less than 30-days per interval, when the time period from the beginning of the first interval to the end of the last interval exceeds 30 days.

(1) The 30 consecutive calendar day period for a site remediation that qualifies for this exemption is determined according to actions taken by you as defined in paragraphs (b)(1)(i) through (iii) of this section.

(i) The first day of the 30-day period is defined as the day on which you initiate any action that removes, destroys, degrades, transforms, immobilizes, or otherwise manages the remediation materials. The following activities, when completed before beginning this initial action, are not counted as part of the 30-day period: Activities to characterize the type and extent of the contamination by collecting and analyzing samples; activities to obtain permits from Federal, State, or local authorities to conduct the site remediation; activities to schedule workers and necessary equipment; and activities to arrange for contractor or third party assistance in performing the site remediation.

(ii) The last day of the 30-day period is defined as the day on which treatment or disposal of all of the remediation materials generated by the cleanup is completed such that the organic constituents in these materials no longer have a reasonable potential for volatilizing and being released to the atmosphere.

(iii) If treatment or disposal of the remediation materials is conducted at an off-site facility where the final treatment or disposal of the material cannot, or may not, be completed within the 30-day exemption period, then the shipment of all of the remediation material generated from your cleanup that is transferred to another party, or shipped to another facility, within the 30-day period, must be performed according to the applicable requirements specified in §63.7936.

(2) For the purpose of complying with paragraph (b)(1) of this section, if you ship or otherwise transfer the remediation material off-site you must include in the applicable shipping documentation, in addition to any notifications and certifications required under §63.7936, a statement that the shipped material was generated by a site remediation activity subject to the conditions of this exemption. The statement must include the date on which you initiated the site remediation activity generating the shipped remediation materials, as specified in paragraph (b)(1)(i) of this section, and the date 30 calendar days following your initiation date.

(3) You must prepare and maintain at your facility written documentation describing the exempted site remediation, and listing the initiation and completion dates for the site remediation.

[71 FR 69016, Nov. 29, 2006]

§ 63.7885 What are the general standards I must meet for my affected process vents?

(a) For the process vents that comprise the affected source designated under §63.7882, you must select and meet the requirements under one of the options specified in paragraph (b) of this section.

(b) For each affected process vent, except as exempted under paragraph (c) of this section, you must meet one of the options in paragraphs (b)(1) through (3) of this section.

(1) You control HAP emissions from the affected process vents according to the standards specified in §§63.7890 through 63.7893.

(2) You determine for the remediation material treated or managed by the process vented through the affected process vents that the average total volatile organic hazardous air pollutant (VOHAP) concentration, as defined in §63.7957, of this material is less than 10 parts per million by weight (ppmw). Determination of the VOHAP concentration is made using the procedures specified in §63.7943.

(3) If the process vent is also subject to another subpart under 40 CFR part 61 or 40 CFR part 63, you control emissions of the HAP listed in Table 1 of this subpart from the affected process vent in compliance with the standards specified in the applicable subpart. This means you are complying with all applicable emissions limitations and work practice standards under the other subpart (*e.g.,* you install and operate the required air pollution controls or have implemented the required work practice to reduce HAP emissions to levels specified by the applicable subpart). This provision does not apply to any exemption of the affected source from the emissions limitations and work practice standards allowed by the other applicable subpart.

(c) A process vent that meets the exemption requirements in paragraphs (c)(1) and (2) of this section is exempted from the requirements in paragraph (b) of this section.

(1) The process vent stream exiting the process vent meets the conditions in either paragraph (c)(1)(i) or (ii) of this section.

(i) The process vent stream flow rate is less than 0.005 cubic meters per minute (m^3 /min) at standard conditions (as defined in 40 CFR 63.2); or

(ii) The process vent stream flow rate is less than 6.0 m^3 /min at standard conditions (as defined in 40 CFR 63.2) and the total concentration of HAP listed in Table 1 of this subpart is less than 20 parts per million by volume (ppmv).

(2) You must demonstrate that the process vent stream meets the applicable exemption conditions in paragraph (c)(1) of this section using the procedures specified in §63.694(m). You must prepare and

maintain documentation at your facility to support your determination of the process vent stream flow rate. This documentation must include identification of each process vent exempted under this paragraph and the test results used to determine the process vent stream flow rate and total HAP concentration, as applicable to the exemption conditions for your process vent. You must perform a new determination of the process vent stream flow rate and total HAP concentration, as applicable to the exemption conditions for your process vent, whenever changes to operation of the unit on which the process vent is used could cause the process vent stream conditions to exceed the maximum limits of the exemption.

§ 63.7886 What are the general standards I must meet for my affected remediation material management units?

(a) For each remediation material management unit that is part of an affected source designated by §63.7882, you must select and meet the requirements under one of the options specified in paragraph (b) of this section except for those remediation material management units exempted under paragraph (c) or (d) of this section.

(b) For each affected remediation material management unit, you must meet one of the options in paragraphs (b)(1) through (4) of this section.

(1) You control HAP emissions from the affected remediation material management unit according to the standards specified in paragraphs (b)(1)(i) through (v) of this section, as applicable to the unit.

(i) If the remediation material management unit is a tank, then you control HAP emissions according to the standards specified in §§63.7895 through 63.7898.

(ii) If the remediation material management unit is a container, then you control HAP emissions according to the standards specified in §§63.7900 through 63.7903.

(iii) If the remediation material management unit is a surface impoundment, then you control HAP emissions according to the standards specified in §§63.7905 through 63.7908.

(iv) If the remediation material management unit is an oil-water or organic-water separator, then you control HAP emissions according to the standards specified in §§63.7910 through 63.7913.

(v) If the remediation material management unit is a transfer system, then you control HAP emissions according to the standards specified in §§63.7915 through 63.7918.

(2) You determine that the average total VOHAP concentration, as defined in §63.7957, of the remediation material managed in the remediation material management unit material is less than 500 ppmw. You must follow the requirements in §63.7943 to demonstrate that the VOHAP concentration of the remediation material is less than 500 ppmw. Once the VOHAP concentration for a remediation material has been determined to be less than 500 ppmw, all remediation material management units downstream from the point of determination managing this material meet the requirements of this paragraph unless a remediation process is used that concentrates all, or part of, the remediation material being managed in the unit such that the VOHAP concentration of the material could increase. Any free product returned to the manufacturing process (*e.g.* , recovered oil returned to a storage tank at a refinery) is no longer subject to this subpart.

(3) If the remediation material management unit is also subject to another subpart under 40 CFR part 61 or 40 CFR part 63, you control emissions of the HAP listed in Table 1 of this subpart from the affected remediation material management unit in compliance with the standards specified in the applicable subpart. This means you are complying with all applicable emissions limitations and work practice standards under the other subpart (*e.g.,* you install and operate the required air pollution controls or have

implemented the required work practice to reduce HAP emissions to levels specified by the applicable subpart). This provision does not apply to any exemption of the affected source from the emissions limitations and work practice standards allowed by the other applicable subpart.

(4) If the remediation material management unit is an open tank or surface impoundment used for a biological treatment process, you meet the requirements as specified in paragraphs (b)(4)(i) and (ii) of this section.

(i) You demonstrate that the biological treatment process conducted in the open tank or surface impoundment meets the performance levels specified in either §63.684(b)(4)(i) or (ii).

(ii) You monitor the biological treatment process conducted in the open tank or surface impoundment according to the requirements in §63.684(e)(4).

(c) A remediation material management unit is exempted from the requirements in paragraph (b) of this section if this unit is used for cleanup of radioactive mixed waste, as defined in §63.7957, that is subject to applicable regulations, directives, and other requirements under the Atomic Energy Act, the Nuclear Waste Policy Act, or the Waste Isolation Pilot Plant Land Withdrawal Act.

(d) One or a combination of remediation material management units may be exempted at your discretion from the requirements in paragraph (b) of this section provided that the total annual quantity of HAP listed in Table 1 of this subpart contained in the remediation material placed in all of the remediation material management units exempted under this paragraph is less than 1 Mg/yr. For each remediation material management unit you select to be exempted under this provision, you must meet the requirements in paragraphs (d)(1) and (2) of this section.

(1) You must designate each of the remediation material management units you are selecting to be exempted under this paragraph by either submitting to the Administrator a written notification identifying the exempt units or permanently marking the exempt units at the faculty site. If you choose to prepare and submit a written notification, this notification must include a site plan, process diagram, or other appropriate documentation identifying each of the exempt units. If you choose to permanently mark the exempt units, each exempt unit must be marked in such a manner that it can be readily identified as an exempt unit from the other remediation material management units located at the site.

(2) You must prepare an initial determination of the total annual HAP quantity in the remediation material placed in the units exempted under this paragraph. This determination is based on the total quantity of the HAP listed in Table 1 of this subpart as determined at the point where the remediation material is placed in each exempted unit. You must perform a new determination whenever the extent of changes to the quantity or composition of the remediation material placed in the exempted units could cause the total annual HAP content in the remediation material to exceed 1 Mg/yr. You must maintain documentation to support the most recent determination of the total annual HAP quantity. This documentation must include the basis and data used for determining the organic HAP content of the remediation material.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69017, Nov. 29, 2006]

§ 63.7887 What are the general standards I must meet for my affected equipment leak sources?

(a) You must control HAP emissions from equipment leaks from each equipment component that is part of the affected source by implementing leak detection and control measures according to the standards specified in §§63.7920 through 63.7922 unless you elect to meet the requirements in paragraph (b) of this section.

(b) If the affected equipment leak source is also subject to another subpart in 40 CFR part 61 or 40 CFR part 63, you may control emissions of the HAP listed in Table 1 to this subpart from the affected equipment leak source in compliance with the standards specified in the other applicable subpart. This means you are complying with all applicable emissions limitations and work practice standards under the other subpart (*e.g.* , you implement leak detection and control measures to reduce HAP emissions as specified by the applicable subpart). This provision does not apply to any exemption of the affected source from the emissions limitations and work practice standards allowed by the other applicable subpart.

[71 FR 69017, Nov. 29, 2006]

§ 63.7888 How do I implement this rule at my facility using the cross-referenced requirements in other subparts?

(a) For the purposes of this subpart, when you read the term “HAP listed in Table 1 of this subpart” in a cross-referenced section under 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, you should refer to Table 1 of this subpart.

(b) For the purposes of this subpart, when you read the term off-site material in a cross-referenced section under 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations you should substitute the term remediation material, as defined in §63.7957.

(c) For the purposes of this subpart, when you read the term regulated material in a cross-referenced section under 40 CFR part 63, subparts OO, PP, QQ, RR, TT, UU, WW, and VV you should substitute the term remediation material, as defined in §63.7957.

Process Vents
§ 63.7890 What emissions limitations and work practice standards must I meet for process vents?

(a) You must control HAP emissions from each new and existing process vent subject to §63.7885(b)(1) according to emissions limitations and work practice standards in this section that apply to your affected process vents.

(b) For your affected process vents, you must meet one of the facility-wide emission limit options specified in paragraphs (b)(1) through (4) of this section. If you have multiple affected process vent streams, you may comply with this paragraph using a combination of controlled and uncontrolled process vent streams that achieve the facility-wide emission limit that applies to you.

(1) Reduce from all affected process vents the total emissions of the HAP listed in Table 1 of this subpart to a level less than 1.4 kilograms per hour (kg/hr) and 2.8 Mg/yr (3.0 pounds per hour (lb/hr) and 3.1 tpy); or

(2) Reduce from all affected process vents the emissions of total organic compounds (TOC) (minus methane and ethane) to a level below 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy); or

(3) Reduce from all affected process vents the total emissions of the HAP listed in Table 1 of this subpart by 95 percent by weight or more; or

(4) Reduce from all affected process vents the emissions of TOC (minus methane and ethane) by 95 percent by weight or more.

(c) For each closed vent system and control device you use to comply with paragraph (b) of this section, you must meet the operating limit requirements and work practice standards in §63.7925(c) through (j) that apply to your closed vent system and control device.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69017, Nov. 29, 2006]

§ 63.7891 How do I demonstrate initial compliance with the emissions limitations and work practice standards for process vents?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7890(b) applicable to your affected process vents by meeting the requirements in paragraphs (b) through (d) of this section.

(b) You have measured or determined using the procedures for performance tests and design evaluations in §63.7941 that emission levels from all of your affected process vents meet the facility-wide emission limits in §63.7890(b) that apply to you, as follows in paragraphs (b)(1) through (4) of this section.

(1) If you elect to meet §63.7890(b)(1), you demonstrate that the total emissions of the HAP listed in Table 1 of this subpart from all affected process vents at your facility are less than 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy).

(2) If you elect to meet §63.7890(b)(2), you demonstrate that emissions of TOC (minus methane and ethane) from all affected process vents at your facility are less than 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy).

(3) If you elect to meet §63.7890(b)(3), you demonstrate that the total emissions of the HAP listed in Table 1 of this subpart from all affected process vents are reduced by 95 percent by weight or more.

(4) If you elect to meet §63.7890(b)(4), you demonstrate that the emissions of TOC (minus methane and ethane) from all affected process vents are reduced by 95 percent by weight or more.

(c) For each closed vent system and control device you use to comply with §63.7890(b), you have met each requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

(d) You have submitted a notification of compliance status according to the requirements in §63.7950.

§ 63.7892 What are my inspection and monitoring requirements for process vents?

For each closed vent system and control device you use to comply with §63.7890(b), you must monitor and inspect the closed vent system and control device according to the requirements in §63.7927 that apply to you.

§ 63.7893 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for process vents?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7890 applicable to your affected process vents by meeting the requirements in paragraphs (b) through (d) of this section.

(b) You must maintain emission levels from all of your affected process vents to meet the facilitywide emission limits in §63.7890(b) that apply to you, as specified in paragraphs (b)(1) through (4) of this section.

(1) If you elect to meet §63.7890(b)(1), you maintain the total emissions of the HAP listed in Table 1 of this subpart from all affected process vents at your facility are less than 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy).

(2) If you elect to meet §63.7890(b)(2), you maintain emissions of TOC (minus methane and ethane) from all affected process vents at your facility are less than 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy).

(3) If you elect to meet §63.7890(b)(3), you maintain the total emissions of the HAP listed in Table 1 of this subpart from all affected process vents are reduced by 95 percent by weight or more.

(4) If you elect to meet §63.7890(b)(4), you maintain that the emissions of TOC (minus methane and ethane) from all affected process vents are reduced by 95 percent by weight or more.

(c) For each closed vent system and control device you use to comply with §63.7890(b), you have met each requirement for demonstrating continuous compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7928.

(d) Keeping records to document continuous compliance with the requirements of this subpart according to the requirements in §63.7952.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69017, Nov. 29, 2006]

Tanks
§ 63.7895 What emissions limitations and work practice standards must I meet for tanks?

(a) You must control HAP emissions from each new and existing tank subject to §63.7886(b)(1)(i) according to emissions limitations and work practice standards in this section that apply to your affected tanks.

(b) For each affected tank, you must install and operate air pollution controls that meet the requirements in paragraphs (b)(1) through (4) of this section that apply to your tank.

(1) Unless your tank is used for a waste stabilization process, as defined in §63.7957, you must determine the maximum HAP vapor pressure (expressed in kilopascals (kPa)) of the remediation material placed in your tank using the procedures specified in §63.7944.

(2) If the maximum HAP vapor pressure of the remediation material you place in your tank is less than 76.6 kPa, then you must determine which tank level controls (*i.e.,* Tank Level 1 or Tank Level 2) apply to your tank as shown in Table 2 of this subpart, and based on your tank's design capacity (expressed in cubic meters (m^3)) and the maximum HAP vapor pressure of the remediation material you place in this tank. If your tank is required by Table 2 of this subpart to use Tank Level 1 controls, then you must meet the requirements in paragraph (c) of this section. If your tank is required by Table 2 of this subpart to use Tank Level 2 controls, then you must meet the requirements in paragraph (d) of this section

(3) If maximum HAP vapor pressure of the remediation material you place in your tank is 76.6 kPa or greater, then the tank must use one of the Tank Level 2 controls specified in paragraphs (d)(3) through (5) of this section. Use of floating roofs under paragraph (d)(1) or (2) of this section is not allowed for tanks managing these remediation materials.

(4) A tank used for a waste stabilization process, as defined in §63.7957, must use one of Tank Level 2 controls, as specified in paragraph (d) of this section, that is appropriate for your waste stabilization process.

(c) If you use Tank Level 1 controls, you must install and operate a fixed roof according to the requirements in §63.902. As an alternative to using this fixed roof, you may choose to use one of Tank Level 2 controls in paragraph (d) of this section.

(d) If you use Tank Level 2 controls, you must meet the requirements of one of the options in paragraphs (d)(1) through (5) of this section.

(1) Install and operate a fixed roof with an internal floating roof according to the requirements in §63.1063(a)(1)(i), (a)(2), and (b); or

(2) Install and operate an external floating roof according to the requirements in §63.1063(a)(1)(ii), (a)(2), and (b); or

(3) Install and operate a fixed roof vented through a closed vent system to a control device according to the requirements in §63.685(g). You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device; or

(4) Install and operate a pressure tank according to the requirements in §63.685(h); or

(5) Locate the tank inside a permanent total enclosure and vent emissions from the enclosure through a closed vent system to a control device that is an enclosed combustion device according to the requirements in §63.685(i). You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(e) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your tanks. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

§ 63.7896 How do I demonstrate initial compliance with the emissions limitations and work practice standards for tanks?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7895 that apply to your affected tanks by meeting the requirements in paragraphs (b) through (h) of this section, as applicable to your containers.

(b) You have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(1) and (2) of this section.

(1) You have determined the applicable tank control levels specified in §63.7895(b) for the tanks to be used for your site remediation.

(2) You have determined, according to the procedures in §63.7944, and recorded the maximum HAP vapor pressure of the remediation material placed in each affected tank subject to §63.7886(b)(1)(i) that does not use Tank Level 2 controls.

(c) You must demonstrate initial compliance of each tank determined under paragraph (b) of this section to require Tank Level 1 controls if you have submitted as part of your notification of compliance status,

specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(1) through (3) of this section.

(1) Each tank using Tank Level 1 controls is equipped with a fixed roof and closure devices according to the requirements in §63.902(b) and (c) and you have records documenting the design.

(2) You have performed an initial visual inspection of the fixed roof and closure devices for defects according to the requirements in §63.906(a) and you have records documenting the inspection results.

(3) You will operate the fixed roof and closure devices according to the requirements in §63.902.

(d) You must demonstrate initial compliance of each tank determined under paragraph (b) of this section to require Tank Level 2 controls and using a fixed roof with an internal floating roof according to §63.7895(d)(1) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (d)(1) through (3) of this section.

(1) Each tank is equipped with an internal floating roof that meets the requirements in §63.1063(a) and you have records documenting the design.

(2) You will operate the internal floating roof according to the requirements in §63.1063(b).

(3) You have performed an initial visual inspection according to the requirements in §63.1063(d)(1) and you have a record of the inspection results.

(e) You must demonstrate initial compliance of each tank determined under paragraph (b) of this section to require Tank Level 2 controls and using an external floating roof according to §63.7895(d)(2) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (e)(1) through (3) of this section.

(1) Each tank is equipped with an external floating roof that meets the requirements in §63.1063(a) and you have records documenting the design.

(2) You will operate the external floating roof according to the requirements in §63.1063(b).

(3) You have performed an initial seal gap measurement inspection according to the requirements in §63.1063(d)(3) and you have records of the measurement results.

(f) You must demonstrate initial compliance of each tank determined under paragraph (b) of this section to require Tank Level 2 controls and using a fixed roof vented to a control device according to §63.7895(d)(3) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (f)(1) through (4) of this section.

(1) Each tank is equipped with a fixed roof and closure devices according to the requirements in §63.902(b) and (c) and you have records documenting the design.

(2) You have performed an initial visual inspection of fixed roof and closure devices for defects according to the requirements in §63.695(b)(3) and you have records documenting the inspection results.

(3) You will operate the fixed roof and closure devices according to the requirements in §63.685(g).

(4) You have met each applicable requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

(g) You must demonstrate initial compliance of each tank determined under paragraph (b) of this section to require Tank Level 2 controls and operates as a pressure tank according to §63.7895(d)(4) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (g)(1) and (2) of this section.

(1) Each tank is designed to operate as a pressure tank according to the requirements in §63.685(h), and you have records documenting the design.

(2) You will operate the pressure tank and according to the requirements in §63.685(h).

(h) You must demonstrate initial compliance of each tank determined under paragraph (b) of this section to require Tank Level 2 controls and using a permanent total enclosure vented to an enclosed combustion device according to §63.7895(d)(5) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (h)(1) and (2) of this section.

(1) You have submitted as part of your notification of compliance status a signed statement that you have performed the verification procedure according to the requirements in §63.685(i), and you have records of the supporting calculations and measurements.

(2) You have met each applicable requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69016, Nov. 29, 2006]

§ 63.7897 What are my inspection and monitoring requirements for tanks?

(a) You must visually inspect each of your tanks using Tank Level 1 controls for defects at least annually according to the requirements in §63.906(a).

(b) You must inspect and monitor each of your tanks using Tank Level 2 controls according to the requirements in paragraphs (b)(1) through (5), as applicable to your tanks.

(1) If you use a fixed roof with an internal floating roof according to §63.7895(d)(1), you must visually inspect the fixed roof and internal floating roof according to the requirements in §63.1063(d)(1) and (2).

(2) If you use an external floating roof according to §63.7895(d)(2), you must visually inspect the external floating roof according to the requirements in §63.1063(d)(1) and inspect the seals according to the requirements in §63.1063(d)(2) and (3).

(3) If you use a fixed roof vented to a control device according to §63.7895(d)(3), you must meet requirements in paragraphs (b)(3)(i) and (ii) of this section.

(i) You must visually inspect the fixed roof and closure devices for defects according to the requirements in §63.695(b)(3).

(ii) You must monitor and inspect the closed vent system and control device according to the requirements in §63.7927 that apply to you.

(4) If you use a pressure tank according to §63.7895(d)(4), you must visually inspect the tank and its closure devices for defects at least annually to ensure they are operating according to the design requirements in §63.685(h).

(5) If you use a permanent total enclosure vented to an enclosed combustion device according to §63.7895(d)(5), you must meet requirements in paragraphs (b)(5)(i) and (ii) of this section.

(i) You must perform the verification procedure for the permanent total enclosure at least annually according to the requirements in §63.685(i).

(ii) You must monitor and inspect the closed vent system and control device according to the requirements in §63.7927 that apply to you.

§ 63.7898 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for tanks?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7895 applicable to your affected tanks by meeting the requirements in paragraphs (b) through (d) of this section.

(b) You must demonstrate continuous compliance with the requirement to determine the applicable tank control level specified in §63.7895(b) for each affected tank by meeting the requirements in paragraphs (b)(1) through (3) of this section.

(1) Keeping records of the tank design capacity according to the requirements in §63.1065(a).

(2) For tanks subject to §63.7886(b)(1)(ii) and not using Tank Level 2 controls, meeting the requirements in paragraphs (b)(2)(i) and (ii) of this section.

(i) Keeping records of the maximum HAP vapor pressure determined according to the procedures in §63.7944 for the remediation material placed in each affected tank.

(ii) Performing a new determination of the maximum HAP vapor pressure whenever changes to the remediation material managed in the tank could potentially cause the maximum HAP vapor pressure to increase to a level that is equal to or greater than the maximum HAP vapor pressure for the tank design capacity specified in Table 2. You must keep records of each determination.

(3) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(c) You must demonstrate continuous compliance for each tank determined to require Tank Level 1 controls by meeting the requirements in paragraphs (c)(1) through (5) of this section.

(1) Operating and maintaining the fixed roof and closure devices according to the requirements in §63.902(c).

(2) Visually inspecting the fixed roof and closure devices for defects at least annually according to the requirements in §63.906(a).

(3) Repairing defects according to the requirements in §63.63.906(b).

(4) Recording the information specified in §63.907(a)(3) and (b).

(5) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(d) You must demonstrate continuous compliance for each tank determined to require Tank Level 2 controls and using a fixed roof with an internal floating roof according to §63.7895(d)(1) by meeting the requirements in paragraphs (d)(1) through (5) of this section.

(1) Operating and maintaining the internal floating roof according to the requirements in §63.1063(b).

(2) Visually inspecting the internal floating roof according to the requirements in §63.1063(d)(1) and (2).

(3) Repairing defects according to the requirements in §63.1063(e).

(4) Recording the information specified in §63.1065(b) through (d).

(5) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(e) You must demonstrate continuous compliance for each tank determined to require Tank Level 2 controls and using an external floating roof according to §63.7895(d)(2) by meeting the requirements in paragraphs (e)(1) through (5) of this section.

(1) Operating and maintaining the external floating roof according to the requirements in §63.1063(b).

(2) Visually inspecting the external floating roof according to the requirements in §63.1063(d)(1) and inspecting the seals according to the requirements in §63.1063(d)(2) and (3).

(3) Repairing defects according to the requirements in §63.1063(e).

(4) Recording the information specified in §63.1065(b) through (d).

(5) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(f) You must demonstrate continuous compliance for each tank determined to require Tank Level 2 controls and using a fixed roof vented to a control device according to §63.7895(d)(3) by meeting the requirements in paragraphs (f)(1) through (6) of this section.

(1) Operating and maintaining the fixed roof and closure devices according to the requirements in §63.685(g).

(2) Visually inspecting the fixed roof and closure devices for defects at least annually according to the requirements in §63.695(b)(3)(i).

(3) Repairing defects according to the requirements in §63.695(b)(4).

(4) Recording the information specified in §63.696(e).

(5) Meeting each applicable requirement for demonstrating continuous compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7928.

(6) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(g) You must demonstrate continuous compliance for each tank determined to require Tank Level 2 controls and operated as a pressure tank according to §63.7895(d)(4) by meeting the requirements in paragraphs (g)(1) through (3) of this section.

(1) Operating and maintaining the pressure tank and closure devices according to the requirements in §63.685(h).

(2) Visually inspecting each pressurized tank and closure devices for defects at least annually to ensure they are operating according to the design requirements in §63.685(h), and recording the results of each inspection.

(3) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(h) You must demonstrate continuous compliance for each tank determined to require Tank Level 2 controls and using a permanent total enclosure vented to an enclosed combustion device according to §63.7895(d)(5) by meeting the requirements in paragraphs (h)(1) through (4) of this section.

(1) Performing the verification procedure for the enclosure annually according to the requirements in §63.685(i).

(2) Recording the information specified in §63.696(f).

(3) Meeting each applicable requirement for demonstrating continuous compliance with the emissions limitations and work practice standards for a closed vent system and control device in §63.7928.

(4) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69017, Nov. 29, 2006]

Containers
§ 63.7900 What emissions limitations and work practice standards must I meet for containers?

(a) You must control HAP emissions from each new and existing container subject to §63.7886(b)(1)(ii) according to emissions limitations and work practice standards in this section that apply to your affected containers.

(b) For each container having a design capacity greater than 0.1 m^3 you must meet the requirements in paragraph (b)(1) or (2) of this section that apply to your container except at the times the container is used for treatment of remediation material by a waste stabilization process, as defined in §63.7957. As an alternative for any container subject to this paragraph, you may choose to meet the requirements in paragraph (d) of this section.

(1) If the design capacity of your container is less than or equal to 0.46 m^3 , then you must use controls according to the standards for Container Level 1 controls as specified in §63.922. As an alternative, you may choose to use controls according to either of the standards for Container Level 2 controls as specified in §63.923.

(2) If the design capacity of your container is greater than 0.46 m^3 , then you must use controls according to the standards for Container Level 2 controls as specified in §63.923 except as provided for in paragraph (b)(3) of this section.

(3) As an alternative to meeting the standards in paragraph (b)(2) of this section for containers with a capacity greater than 0.46 m^3 , if you determine that either of the conditions in paragraphs (b)(3)(i) or (ii) apply to the remediation material placed in your container, then you may use controls according to the standards for Container Level 1 controls as specified in §63.922.

(i) Vapor pressure of every organic constituent in the remediation material placed in your container is less than 0.3 kPa at 20 °C; or

(ii) Total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 °C in the remediation material placed in your container is less than 20 percent by weight.

(c) At times when a container having a design capacity greater than 0.1 m^3 is used for treatment of a remediation material by a waste stabilization process as defined in §63.7957, you must control air emissions from the container during the process whenever the remediation material in the container is exposed to the atmosphere according to the standards for Container Level 3 controls as specified in §63.924. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(d) As an alternative to meeting the requirements in paragraph (b) of this section, you may choose to use controls on your container according to the standards for Container Level 3 controls as specified in §63.924. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(e) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your containers. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

§ 63.7901 How do I demonstrate initial compliance with the emissions limitations and work practice standards for containers?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7990 that apply to your affected containers by meeting the requirements in paragraphs (b) through (e) of this section, as applicable to your containers.

(b) You have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(1) and (2) of this section.

(1) You have determined the applicable container control levels specified in §63.7990 for the containers to be used for your site remediation.

(2) You have determined and recorded the maximum vapor pressure or total organic concentration for the remediation material placed in containers with a design capacity greater than 0.46 m^3 , and do not use Container Level 2 or Level 3 controls.

(c) You must demonstrate initial compliance of each container determined under paragraph (b) of this section to require Container Level 1 controls if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(1) and (2) of this section.

(1) Each container using Container Level 1 controls will be one of the containers specified in §63.922(b).

(2) You will operate each container cover and closure device according to the requirements in §63.922(d).

(d) You must demonstrate initial compliance of each container determined under paragraph (b) of this section to require Container Level 2 controls if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (d)(1) through (4) of this section.

(1) Each container using Container Level 2 controls will be one of the containers specified in §63.923(b).

(2) You will transfer remediation materials into and out of each container according to the procedures in §63.923(d).

(3) You will operate and maintain the container covers and closure devices according to the requirements in §63.923(d).

(4) You have records that the container meets the applicable U.S. Department of Transportation regulations, or you have conducted an initial test of each container for no detectable organic emissions using the procedures in §63.925(a), and have records documenting the test results, or you have demonstrated within the last 12 months that each container is vapor-tight according to the procedures in §63.925(a) and have records documenting the test results.

(e) You must demonstrate initial compliance of each container determined under paragraph (b) of this section to require Container Level 3 controls if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (e)(1) and (2) of this section.

(1) For each permanent total enclosure you use to comply with §63.7900, you have performed the verification procedure according to the requirements in §63.924(c)(1), and prepare records of the supporting calculations and measurements.

(2) You have met each applicable requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

§ 63.7902 What are my inspection and monitoring requirements for containers?

(a) You must inspect each container using Container Level 1 or Container Level 2 controls according to the requirements in §63.926(a).

(b) If you use Container Level 3 controls, you must meet requirements in paragraphs (b)(1) and (2) of this section, as applicable to your site remediation.

(1) You must perform the verification procedure for each permanent total enclosure annually according to the requirements in §63.924(c)(1).

(2) You must monitor and inspect each closed vent system and control device according to the requirements in §63.7927 that apply to you.

§ 63.7903 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for containers?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7990 applicable to your affected containers by meeting the requirements in paragraphs (b) through (e) of this section.

(b) You must demonstrate continuous compliance with the requirement to determine the applicable container control level specified in §63.7990(b) for each affected tank by meeting the requirements in paragraphs (b)(1) through (3) of this section.

(1) Keeping records of the quantity and design capacity for each type of container used for your site remediation and subject to §63.7886(b)(1)(ii).

(2) For containers subject to §63.7886(b)(1)(ii) with a design capacity greater than 0.46 m^3 and not using Container Level 2 or Container Level 3 controls, meeting the requirements in paragraphs (b)(2)(i) and (ii) of this section.

(i) Keeping records of the maximum vapor pressure or total organic concentration for the remediation material placed in the containers, as applicable to the conditions in §63.7900(b)(3)(i) or (ii) for which your containers qualify to use Container Level 1 controls.

(ii) Performing a new determination whenever changes to the remediation material placed in the containers could potentially cause the maximum vapor pressure or total organic concentration to increase to a level that is equal to or greater than the conditions specified in §63.7900(b)(3)(i) or (ii), as applicable to your containers. You must keep records of each determination.

(3) Keeping records to document compliance with the requirements according to the requirements in §63.7952.

(c) You must demonstrate continuous compliance for each container determined to require Container Level 1 controls by meeting the requirements in paragraphs (c)(1) through (5) of this section.

(1) Operating and maintaining covers for each container according to the requirements in §63.922(d) .

(2) Inspecting each container annually according to the requirements in §63.926(a)(2).

(3) Emptying or repairing each container according to the requirements in §63.926(a)(3).

(4) Keeping records of an inspection that includes the information in paragraphs (a)(4)(i) and (ii) of this section.

(i) Date of each inspection; and

(ii) If a defect is detected during an inspection, the location of the defect, a description of the defect, the date of detection, the corrective action taken to repair the defect, and if repair is delayed, the reason for any delay and the date completion of the repair is expected.

(5) Keeping records to document compliance with the requirements according to the requirements in §63.7952.

(d) You must demonstrate continuous compliance for each container determined to require Container Level 2 controls by meeting the requirements in paragraphs (d)(1) through (6) of this section.

(1) Transferring remediation material in and out of the container according to the requirements in §63.923(c).

(2) Operating and maintaining container covers according to the requirements in §63.923(d).

(3) Inspecting each container annually according to the requirements in §63.926(a)(2).

(4) Emptying or repairing containers according to the requirements in §63.926(a)(3).

(5) Keeping records of each inspection that include the information in paragraphs (d)(5)(i) and (ii) of this section.

(i) Date of each inspection; and

(ii) If a defect is detected during an inspection, the location of the defect, a description of the defect, the date of detection, the corrective action taken to repair the defect, and if repair is delayed, the reason for any delay and the date completion of the repair is expected.

(6) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(e) You must demonstrate continuous compliance for each container determined to require Container Level 3 controls by meeting the requirements in paragraphs (e)(1) through (4) of this section.

(1) Performing the verification procedure for the enclosure annually according to the requirements in §63.685(i).

(2) Recording the information specified in §63.696(f).

(3) Meeting each applicable requirement for demonstrating continuous compliance with the emissions limitations and work practice standards for a closed vent system and control device in §63.7928.

(4) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

Surface Impoundments
§ 63.7905 What emissions limitations or work practice standards must I meet for surface impoundments?

(a) You must control HAP emissions from each new and existing surface impoundment subject to §63.7886(b)(1)(iii) according to emissions limitations and work practice standards in this section that apply to your affected surface impoundments.

(b) For each affected surface impoundment, you must install and operate air pollution controls that meet either of the options in paragraphs (b)(1) or (2) of this section.

(1) Install and operate a floating membrane cover according to the requirements in §63.942; or

(2) Install and operate a cover vented through a closed vent system to a control device according to the requirements in §63.943. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(c) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your surface impoundments. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

§ 63.7906 How do I demonstrate initial compliance with the emissions limitations or work practice standards for surface impoundments?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7905 that apply to your affected surface impoundments by meeting the requirements in paragraphs (b) and (c) of this section, as applicable to your surface impoundments.

(b) You must demonstrate initial compliance of each surface impoundment using a floating membrane cover according to §63.7905(b)(1) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(1) through (3) of this section.

(1) You have installed a floating membrane cover and closure devices that meet the requirements in §63.942(b), and you have records documenting the design and installation.

(2) You will operate the cover and closure devices according to the requirements in §63.942(c).

(3) You have performed an initial visual inspection of each surface impoundment and closure devices according to the requirements in §63.946(a), and you have records documenting the inspection results.

(c) You must demonstrate initial compliance of each surface impoundment using a cover vented to a control device according to §63.7905(b)(2) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(1) through (4) of this section.

(1) You have installed a cover and closure devices that meet the requirements in §63.943(b), and have records documenting the design and installation.

(2) You will operate the cover and closure devices according to the requirements in §63.943(c).

(3) You have performed an initial visual inspection of each cover and closure devices according to the requirements in §63.946(b), and have records documenting the inspection results.

(4) You have met each applicable requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

§ 63.7907 What are my inspection and monitoring requirements for surface impoundments?

(a) If you use a floating membrane cover according to §63.7905(b)(1), you must visually inspect the floating membrane cover and its closure devices at least annually according to the requirements in §63.946(a).

(b) If you use a cover vented to a control device according to §63.7905(b)(2), you must meet requirements in paragraphs (b)(1) and (2) of this section.

(1) You must visually inspect the cover and its closure devices for defects according to the requirements in §63.946(b).

(2) You must monitor and inspect the closed vent system and control device according to the requirements in §63.7927 that apply to you.

§ 63.7908 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for surface impoundments?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7905 applicable to your affected surface impoundments by meeting the requirements in paragraphs (b) and (c) of this section as applicable to your surface impoundments.

(b) You must demonstrate continuous compliance for each surface impoundment using a floating membrane cover according to §63.7905(b)(1) by meeting the requirements in paragraphs (b)(1) through (5) of this section.

(1) Operating and maintaining the floating membrane cover and closure devices according to the requirements in §63.942(c).

(2) Visually inspecting the floating membrane cover and closure devices for defects at least annually according to the requirements in §63.946(a).

(3) Repairing defects according to the requirements in §63.946(c).

(4) Recording the information specified in §63.947(a)(2) and (a)(3).

(5) Keeping records to document compliance with the requirements according to the requirements in §63.7952.

(c) You must demonstrate continuous compliance for each surface impoundment using a cover vented to a control device according to §63.7905(b)(2) by meeting the requirements in paragraphs (c)(1) through (6) of this section.

(1) Operating and maintaining the cover and its closure devices according to the requirements in §63.943(c).

(2) Visually inspecting the cover and its closure devices for defects at least annually according to the requirements in §63.946(b).

(3) Repairing defects according to the requirements in §63.946(c).

(4) Recording the information specified in §63.947(a)(2) and (a)(3).

(5) Meeting each applicable requirement for demonstrating continuous compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7928.

(6) Keeping records to document compliance with the requirements according to the requirements in §63.7952.

Separators

§ 63.7910 What emissions limitations and work practice standards must I meet for separators?

(a) You must control HAP emissions from each new and existing oil-water separator and organic-water separator subject to §63.7886(b)(1)(iv) according to emissions limitations and work practice standards in this section that apply to your affected separators.

(b) For each affected separator, you must install and operate air pollution controls that meet one of the options in paragraphs (b)(1) through (3) of this section.

(1) Install and operate a floating roof according to the requirements in §63.1043. For portions of the separator where it is infeasible to install and operate a floating roof, such as over a weir mechanism, you must comply with the requirements specified in paragraph (b)(2) of this section.

(2) Install and operate a fixed roof vented through a closed vent system to a control device according to the requirements in §63.1044. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(3) Install and operate a pressurized separator according to the requirements in §63.1045.

(c) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your separators. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

§ 63.7911 How do I demonstrate initial compliance with the emissions limitations and work practice standards for separators?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7910 that apply to your affected separators by meeting the requirements in paragraphs (b) through (d) of this section, as applicable to your separators.

(b) You must demonstrate initial compliance of each separator using a floating roof according to §63.7910(b)(1) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(1) through (4) of this section.

(1) You have installed a floating roof and closure devices that meet the requirements in §63.1043(b), and you have records documenting the design and installation.

(2) You will operate the floating roof and closure devices according to the requirements in §63.1043(c).

(3) You have performed an initial seal gap measurement inspection using the procedures in §63.1046(b), and you have records documenting the measurement results.

(4) You have performed an initial visual inspection of the floating roof and closure devices for defects according to the requirements in §63.1047(b)(2), and you have records documenting the inspection results.

(5) For any portions of the separator using a fixed roof vented to a control device according to §63.7910(b)(1), you have met the requirements in paragraphs (c)(1) through (4) of this section.

(c) You must demonstrate initial compliance of each separator using a fixed roof vented to a control device according to §63.7910(b)(2) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(1) through (4) of this section.

(1) You have installed a fixed roof and closure devices that meet the requirements in §63.1042(b), and you have records documenting the design and installation.

(2) You will operate the fixed roof and its closure devices according to the requirements in §63.1042(c).

(3) You have performed an initial visual inspection of the fixed roof and closure devices for defects according to the requirements in §63.1047(a).

(4) You have met each applicable requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

(d) You must demonstrate initial compliance of each pressurized separator that operates as a closed system according to §63.7910(b)(3) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (d)(1) and (2) of this section.

(1) You have installed a pressurized separator that operates as a closed system according to the requirements in §63.1045(b)(1) and (b)(2), and you have records of the design and installation.

(2) You will operate the pressurized separator as a closed system according to the requirements in §63.1045(b)(3).

§ 63.7912 What are my inspection and monitoring requirements for separators?

(a) If you use a floating roof according to §63.7910(b)(1), you must meet requirements in paragraphs (a)(1) and (2) of this section.

(1) Measure the seal gaps at least annually according to the requirements in §63.1047(b)(1).

(2) Visually inspect the floating roof at least annually according to the requirements in §63.1047(b)(2).

(b) If you use a cover vented to a control device according to §63.7910(b)(1) or (2), you must meet requirements in paragraphs (b)(1) and (2) of this section.

(1) You must visually inspect the cover and its closure devices for defects according to the requirements in §63.1047(c).

(2) You must monitor and inspect the closed vent system and control device according to the requirements in §63.7927 that apply to you.

(c) If you use a pressurized separator that operates as a closed system according to §63.7910(b)(3), you must visually inspect each pressurized separator and closure devices for defects at least annually to ensure they are operating according to the design requirements in §63.1045(b).

§ 63.7913 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for separators?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7910 applicable to your affected separators by meeting the requirements in paragraphs (b) through (d) of this section as applicable to your surface impoundments.

(b) You must demonstrate continuous compliance for each separator using a floating roof according to §63.7910(b)(1) by meeting the requirements in paragraphs (b)(1) through (6) of this section.

(1) Operating and maintaining the floating roof according to the requirements in §63.1043(b).

(2) Performing seal gap measurement inspections at least annually according to the requirements in §63.1047(b)(1).

(3) Visually inspecting the floating roof at least annually according to the requirements in §63.1047(b)(2).

(4) Repairing defects according to the requirements in §63.1047(d).

(5) Recording the information specified in §63.1048(a) and (b).

(6) Keeping records to document compliance with the requirements according to the requirements in §63.7952.

(c) You must demonstrate continuous compliance for each separator using a fixed roof vented through a closed vent system to a control device according to §63.7910(b)(2) by meeting the requirements in paragraphs (c)(1) through (6) of this section.

(1) Operating and maintaining the fixed roof and its closure devices according to the requirements in §63.1042.

(2) Performing visual inspections of the fixed roof and its closure devices for defects at least annually according to the requirements in §63.1047(a).

(3) Repairing defects according to the requirements in §63.1047(d).

(4) Recording the information specified in §63.1048(a).

(5) Meeting each applicable requirement for demonstrating continuous compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7928.

(6) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(d) You must demonstrate continuous compliance for each pressurized separator operated as a closed system according to §63.7910(b)(3) by meeting the requirements in paragraphs (d)(1) and (2) of this section.

(1) Operating the pressurized separator at all times according to the requirements in §63.1045.

(2) Visually inspecting each pressurized tank and closure devices for defects at least annually to ensure they are operating according to the design requirements in §63.1045(b), and recording the results of each inspection.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69017, Nov. 29, 2006]

Transfer Systems
§ 63.7915 What emissions limitations and work practice standards must I meet for transfer systems?

(a) You must control HAP emissions from each new and existing transfer system subject to §63.7886(b)(1)(v) according to emissions limitations and work practice standards in this section that apply to your affected transfer systems.

(b) For each affected transfer system that is an individual drain system as defined in §63.7957, you must install and operate controls according to the requirements in §63.962.

(c) For each affected transfer system that is not an individual drain system as defined in §63.7957, you must use one of the transfer systems specified in paragraphs (c)(1) through (3) of this section.

(1) A transfer system that uses covers according to the requirements in §63.689(d).

(2) A transfer system that consists of continuous hard piping. All joints or seams between the pipe sections must be permanently or semi-permanently sealed (*e.g.* , a welded joint between two sections of metal pipe or a bolted and gasketed flange).

(3) A transfer system that is enclosed and vented through a closed vent system to a control device according to the requirements specified in paragraphs (c)(3)(i) and (ii) of this section.

(i) The transfer system is designed and operated such that an internal pressure in the vapor headspace in the enclosure is maintained at a level less than atmospheric pressure when the control device is operating, and

(ii) The closed vent system and control device are designed and operated to meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(d) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your transfer systems. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

§ 63.7916 How do I demonstrate initial compliance with the emissions limitations and work practice standards for transfer systems?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7915 that apply to your affected transfer systems by meeting the requirements in paragraphs (b) through (e) of this section, as applicable to your transfer systems.

(b) You must demonstrate initial compliance of each individual drain system using controls according to §63.7915(b) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(1) through (3) of this section.

(1) You have installed air emission controls for each individual drain system and junction box according to the requirements in §63.962(a) and (b), and you have records documenting the installation and design.

(2) You will operate the air emission controls according to the requirements in §63.962(b)(5).

(3) You have performed an initial visual inspection of each individual drain system according to the requirements in §63.964(a), and you have records documenting the inspection results.

(c) You must demonstrate initial compliance of each transfer system using covers according to §63.7915(c)(1) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(1) through (3) of this section.

(1) Each transfer system is equipped with covers and closure devices according to the requirements in §63.689(d)(1) through (4), and you have records documenting the design and installation.

(2) You have performed an initial inspection of each cover and its closure devices for defects according to the requirements in §63.695(d)(1) through (5), and you have records documenting the inspection results.

(3) You will operate each cover and its closure devices according to the requirements in §63.689(5).

(d) You must demonstrate initial compliance of each transfer system that consists of hard piping according to §63.7915(c)(2) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (d)(1) and (2) of this section.

(1) You have installed a transfer system that consists entirely of hard piping and meets the requirements in §63.7915(c)(2), and you have records documenting the design and installation.

(2) You have performed an initial inspection of the entire transfer system to verify that all joints or seams between the pipe sections are permanently or semi-permanently sealed (*e.g.,* a welded joint between two sections of metal pipe or a bolted and gasketed flange), and you have records documenting the inspection results.

(e) You must demonstrate initial compliance of each transfer system that is enclosed and vented to a control device according to §63.7915(e)(3) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (e)(1) and (2) of this section.

(1) You have installed a transfer system that is designed and operated such that an internal pressure in the vapor headspace in the enclosure is maintained at a level less than atmospheric pressure when the control device is operating, and you have records documenting the design and installation.

(2) You have met each applicable requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7926.

§ 63.7917 What are my inspection and monitoring requirements for transfer systems?

(a) If you operate an individual drain system as a transfer system according to §63.7915(b), you must visually inspect each individual drain system at least annually according to the requirements in §63.964(a).

(b) If you operate a transfer system using covers according to §63.7915(c)(1), you must inspect each cover and its closure devices for defects according to the requirements in §63.695(d)(1) through (5).

(c) If you operate a transfer system consisting of hard piping according to §63.7915(c)(2), you must annually inspect the unburied portion of pipeline and all joints for leaks and other defects. In the event that a defect is detected, you must repair the leak or defect according to the requirements of paragraph (e) of this section.

(d) If you operate a transfer system that is enclosed and vented to a control device according to §63.7915(c)(3), you must meet requirements in paragraphs (d)(1) and (2) of this section.

(1) You must annually inspect all enclosure components (e.g., enclosure sections, closure devices, fans) for defects that would prevent an internal pressure in the vapor headspace in the enclosure from continuously being maintained at a level less than atmospheric pressure when the control device is operating. In the event that a defect is detected, you must repair the defect according to the requirements of paragraph (e) of this section.

(2) You must monitor and inspect the closed vent system and control device according to the requirements in §63.7927 that apply to you.

(e) If you are subject to paragraph (c) or (d) of this section, you must repair all detected defects as specified in paragraphs (e)(1) through (3) of this section.

(1) You must make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (e)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if you determine that repair of the defect requires emptying or temporary removal from service of the transfer system and no alternative transfer system is available at the site to accept the material normally handled by the system. In this case, you must repair the defect the next time the process or unit that is generating the material handled by the transfer system stops operation. Repair of the defect must be completed before the process or unit resumes operation.

(3) You must maintain a record of the defect repair according to the requirements specified in §63.7952.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

§ 63.7918 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for transfer systems?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7915 applicable to your affected transfer system by meeting the requirements in paragraphs (b) through (e) of this section as applicable to your transfer systems.

(b) You must demonstrate continuous compliance for each individual drain system using controls according to §63.7915(b) by meeting the requirements in paragraphs (b)(1) through (5) of this section.

(1) Operating and maintaining the air emission controls for individual drain systems according to the requirements in §63.962.

(2) Visually inspecting each individual drain system at least annually according to the requirements in §63.964(a).

(3) Repairing defects according to the requirements in §63.964(b).

(4) Recording the information specified in §63.965(a).

(5) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(c) You must demonstrate continuous compliance for each transfer system using covers according to §63.7915(c)(1) by meeting the requirements in paragraphs (c)(1) through (4) of this section.

(1) Operating and maintaining each cover and its closure devices according to the requirements in §63.689(d)(1) through (5).

(2) Performing inspections of each cover and its closure devices for defects at least annually according to the requirements in §63.695(d)(1) through (5).

(3) Repairing defects according to the requirements in §63.695(5)

(4) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(d) You must demonstrate continuous compliance for each transfer system that consists of hard piping according to §63.7915(c)(2) by meeting the requirements in paragraphs (d)(1) through (4) of this section.

(1) Operating and maintaining the pipeline to ensure that all joints or seams between the pipe sections remain permanently or semi-permanently sealed (*e.g.* , a welded joint between two sections of metal pipe or a bolted and gasketed flange).

(2) Inspecting the pipeline for defects at least annually according to the requirements in §63.7917(c).

(3) Repairing defects according to the requirements in §63.7917(e).

(4) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(e) You must demonstrate continuous compliance for each transfer system that is enclosed and vented to a control device according to §63.7915(c)(3) by meeting the requirements in paragraphs (e)(1) through (5) of this section.

(1) Operating and maintaining the enclosure to ensure that the internal pressure in the vapor headspace in the enclosure is maintained continuously at a level less than atmospheric pressure when the control device is operating.

(2) Inspecting the enclosure and its closure devices for defects at least annually according to the requirements in §63.7918(d).

(3) Repairing defects according to the requirements in §63.7918(e).

(4) Meeting each applicable requirement for demonstrating continuous compliance with the emission limitations and work practice standards for a closed vent system and control device in §63.7928.

(5) Keeping records to document compliance with the requirements according to the requirements in §63.7952.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

Equipment Leaks
§ 63.7920 What emissions limitations and work practice standards must I meet for equipment leaks?

(a) You must control HAP emissions from each new and existing equipment subject to §63.7887 according to emissions limitations and work practice standards in this section that apply to your affected equipment.

(b) For your affected equipment, you must meet the requirements in either paragraph (b)(1) or (2) of this section.

(1) Control equipment leaks according to all applicable requirements under 40 CFR part 63, subpart TT—National Emission Standards for Equipment Leaks—Control Level 1; or

(2) Control equipment leaks according to all applicable requirements under 40 CFR part 63, subpart UU—National Emission Standards for Equipment Leaks—Control Level 2.

(c) If you use a closed vent system and control device to comply with this section, as an alternative to meeting the standards in §63.1015 or §63.1034 for closed vent systems and control devices, you may elect to meet the requirements in §§63.7925 through 63.7928 that apply to your closed vent system and control device.

(d) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your equipment. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

§ 63.7921 How do I demonstrate initial compliance with the emissions limitations and work practice standards for equipment leaks?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7920 that apply to your affected equipment by meeting the requirements in paragraphs (b) and (c) of this section, as applicable to your affected sources.

(b) If you control equipment leaks according to the requirements under §63.7920(b)(1), you must demonstrate initial compliance if you have met the requirements in paragraphs (b)(1) and (2) of this section.

(1) You include the information required in §63.1018(a)(1) in your notification of compliance status report.

(2) You have submitted as part of your notification of compliance status a signed statement that:

(i) You will meet the requirements in §§63.1002 through 63.1016 that apply to your affected equipment.

(ii) You have identified the equipment subject to control according to the requirements in §63.1003, including equipment designated as unsafe to monitor, and have records supporting the determinations with a written plan for monitoring the equipment according to the requirements in §63.1003(c)(4).

(c) If you control equipment leaks according to the requirements under §63.7920(b)(2), you must demonstrate initial compliance if you have met the requirements in paragraphs (c)(1) and (2) of this section.

(1) You have included the information required in §63.1039(a) in your notification of compliance status report.

(2) You have submitted as part of your notification of compliance status a signed statement that:

(i) You will meet the requirements in §§63.1021 through 63.1037 that apply to your affected equipment.

(ii) You have identified the equipment subject to control according to the requirements in §63.1022, including equipment designated as unsafe to monitor, and have records supporting the determinations with a written plan for monitoring the equipment according to the requirements in §63.1022(c)(4).

§ 63.7922 How do I demonstrate continuous compliance with the work practice standards for equipment leaks?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7920 applicable to your affected equipment by meeting the requirements in paragraphs (b) through (d) of this section that apply to you.

(b) If you control equipment leaks according to the requirements under §63.7920(b)(1), you must demonstrate continuous compliance by inspecting, monitoring, repairing, and maintaining records according to the requirements in §§63.1002 through 63.1018 that apply to your affected equipment.

(c) If you control equipment leaks according to the requirements under §63.7920(b)(2), you must demonstrate continuous compliance by inspecting, monitoring, repairing, and maintaining records according to the requirements in §§63.1021 through 63.1039 that apply to your affected equipment.

(d) You must keep records to demonstrate compliance with the requirements according to the requirements in §63.7952.

Closed Vent Systems and Control Devices
§ 63.7925 What emissions limitations and work practice standards must I meet for closed vent systems and control devices?

(a) For each closed-vent system and control device you use to comply with requirements in §§63.7890 through 63.7922, as applicable to your affected sources, you must meet the emissions limitations and work practice standards in this section.

(b) Whenever gases or vapors containing HAP are vented through the closed-vent system to the control device, the control device must be operating except at those times listed in either paragraph (b)(1) or (2) of this section.

(1) The control device may be bypassed for the purpose of performing planned routine maintenance of the closed-vent system or control device in situations when the routine maintenance cannot be performed during periods that the emission point vented to the control device is shutdown. On an annual basis, the total time that the closed-vent system or control device is bypassed to perform routine maintenance must not exceed 240 hours per each calendar year.

(2) The control device may be bypassed for the purpose of correcting a malfunction of the closed-vent system or control device. You must perform the adjustments or repairs necessary to correct the malfunction as soon as practicable after the malfunction is detected.

(c) For each closed vent system, you must meet the work practice standards in §63.693(c).

(d) For each control device other than a flare or a control device used to comply with the facility-wide process vent emission limits in §63.7890(b), you must control HAP emissions to meet either of the emissions limits in paragraphs (d)(1) or (2) of this section except as provided for in paragraph (f) of this section.

(1) Reduce emissions of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from each control device by 95 percent by weight; or

(2) Limit the concentration of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from each combustion control device (a thermal incinerator, catalytic incinerator, boiler, or process heater) to 20 ppmv or less on a dry basis corrected to 3 percent oxygen.

(e) If you use a flare for your control device, then you must meet the requirements for flares in §63.11(b).

(f) If you use a process heater or boiler for your control device, then as alternative to meeting the emissions limits in paragraph (d) of this section you may choose to comply with one of the work practice standards in paragraphs (f)(1) through (3) of this section.

(1) Introduce the vent stream into the flame zone of the boiler or process heater and maintain the conditions in the combustion chamber at a residence time of 0.5 seconds or longer and at a temperature of 760 °C or higher; or

(2) Introduce the vent stream with the fuel that provides the predominate heat input to the boiler or process heater (*i.e.,* the primary fuel); or

(3) Introduce the vent stream to a boiler or process heater for which you either have been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H—Hazardous Waste Burned in Boilers and Industrial Furnaces; or has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(g) For each control device other than a flare, you must meet each operating limit in paragraphs (g)(1) through (6) of this section that applies to your control device.

(1) If you use a regenerable carbon adsorption system, you must:

(i) Maintain the hourly average total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the stream mass flow established in the design evaluation or performance test.

(ii) Maintain the hourly average temperature of the adsorption bed during regeneration (except during the cooling cycle) greater than or equal to the temperature established during the design evaluation or performance test.

(iii) Maintain the hourly average temperature of the adsorption bed after regeneration (and within 15 minutes after completing any cooling cycle) less than or equal to the temperature established during the design evaluation.

(iv) Maintain the frequency of regeneration greater than or equal to the frequency established during the design evaluation.

(2) If you use a nonregenerable carbon adsorption system, you must maintain the hourly average temperature of the adsorption bed less than or equal to the temperature established during the design evaluation or performance test.

(3) If you use a condenser, you must maintain the daily average condenser exit temperature less than or equal to the temperature established during the design evaluation or performance test.

(4) If you use a thermal incinerator, you must maintain the daily average firebox temperature greater than or equal to the temperature established in the design evaluation or during the performance test.

(5) If you use a catalytic incinerator, you must maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the performance test or design evaluation.

(6) If you use a boiler or process heater to comply with an emission limit in paragraph (d) of this section, you must maintain the daily average firebox temperature within the operating level established during the design evaluation or performance test.

(h) If you use a carbon adsorption system as your control, you must meet each work practice standard in paragraphs (h)(1) through (3) of this section that applies to your control device.

(1) If you use a regenerable carbon adsorption system, you must:

(i) Replace the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation.

(ii) Follow the disposal requirements for spent carbon in §63.693(d)(4).

(2) If you use a nonregenerable carbon adsorption system, you must:

(i) Replace the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation.

(ii) Meet the disposal requirements for spent carbon in §63.693(d)(4)(ii).

(3) If you use a nonregenerative carbon adsorption system, you may choose to comply with the requirements in paragraphs (h)(3)(i) and (ii) of this section as an alternative to the requirements in paragraph (h)(2) of this section. You must:

(i) Immediately replace the carbon canister or carbon in the control device when the monitoring device indicates breakthrough has occurred according to the requirements in §63.693(d)(4)(iii)(A), or replace the carbon canister or carbon in the control device at regular intervals according to the requirements in §63.693(d)(4)(iii)(B).

(ii) Follow the disposal requirements for spent carbon in §63.693(d)(4)(ii).

(i) If you use a catalytic incinerator, you must replace the existing catalyst bed with a bed that meets the replacement specifications before the age of the bed exceeds the maximum allowable age established in the design evaluation or during the performance test.

(j) As provided in §63.6(g), you may request approval from the EPA to use an alternative to the work practice standards in this section that apply to your closed vent systems and control devices. If you request for permission to use an alternative to the work practice standards, you must submit the information described in §63.6(g)(2).

§ 63.7926 How do I demonstrate initial compliance with the emission limitations and work practice standards for closed vent systems and control devices?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in this subpart applicable to your closed vent system and control device by meeting the requirements in paragraphs (b) through (h) of this section that apply to your closed vent system and control device.

(b) You must demonstrate initial compliance with the closed vent system work practice standards in §63.7925(c) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(1) and (2) of this section.

(1) You have installed a closed vent system that meets the requirements in §63.695(c)(1) and (2), and you have records documenting the equipment design and installation.

(2) You have performed the initial inspection of the closed vent system according to the requirements in §63.695(c)(1)(i) or (ii), and you have records documenting the inspection results.

(c) You must demonstrate initial compliance of each control device subject to the emissions limits in §63.7925(d) with the applicable emissions limit in §63.7925(d) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(1) and (2) of this section that apply to you.

(1) For the emissions limit in §63.7925(d)(1), the emissions of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from the control device, measured or determined according to the procedures for performance tests and design evaluations in §63.7941, are reduced by at least 95 percent by weight.

(2) For the emissions limit in §63.7925(d)(2), the concentration of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from the combustion control device, measured by a performance test or determined by a design evaluation according to the procedures in §63.7941, do not exceed 20 ppmv on a dry basis corrected to 3 percent oxygen.

(d) You must demonstrate initial compliance of each control device subject to operating limits in §63.7925(g) with the applicable limits if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (d)(1) and (2) of this section.

(1) You have established an appropriate operating limit(s) for each of the operating parameter applicable to your control device as specified in §63.7925(g)(1) through (6).

(2) You have a record of the applicable operating parameter data during the performance test or design evaluation during which the emissions met the applicable limit.

(e) You must demonstrate initial compliance with the spent carbon replacement and disposal work practice standards for carbon adsorption systems in §63.7925(h) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you will comply with each work practice standard that applies to your carbon adsorption system.

(f) You must demonstrate initial compliance with the catalyst replacement work practice standards for catalytic incinerators in §63.7925(i) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you will comply with the specified work practice standard.

(g) You must demonstrate initial compliance of each flare with the work practice standards in §63.7925(e) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (g)(1) through (3) of this section.

(1) Each flare meets the requirements in §63.11(b).

(2) You have performed a visible emissions test, determined the net heating value of gas being combusted, and determined the flare exit velocity as required in §63.693(h)(2).

(3) You will operate each flare according to the requirements in §63.11(b).

(h) You must demonstrate initial compliance of each boiler or process heater with the work practice standards in §63.7925(f) if you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (h)(1) through (3) of this section.

(1) For the work practice standards in §63.7925(f)(1), you have records documenting that the boiler or process heater is designed to operate at a residence time of 0.5 seconds or greater and maintain the combustion zone temperature at 760 °C or greater.

(2) For the work practice standard in §63.7925(f)(2), you have records documenting that the vent stream is introduced with the fuel according to the requirements in §63.693(g)(1)(iv), or that the vent stream is introduced to a boiler or process heater that meets the requirements in §63.693(g)(1)(v).

(3) For the work practice standard in §63.7925(f)(3), you have records documenting you either have been issued a final permit under 40 CFR part 270 and your boiler or process heater complies with the requirements of 40 CFR part 266, subpart H—Hazardous Waste Burned in Boilers and Industrial Furnaces; or has been certified in compliance with the interim status requirements of 40 CFR part 266, subpart H.

§ 63.7927 What are my inspection and monitoring requirements for closed vent systems and control devices?

(a) You must comply with the requirements in paragraphs (a)(1) and (2) of this section for each closed vent system.

(1) You must monitor and inspect each closed vent system according to the requirements in either paragraph (a)(1)(i) or (ii) of this section.

(i) You must monitor, inspect, and repair defects according to the requirements in §63.695(c)(1)(ii) through (c)(3); or

(ii) You must monitor and inspect the closed vent system according to the requirements in §63.172(f) through (j) and record the information in §63.181.

(2) If your closed vent system includes a bypass device, you must meet the requirements in either paragraph (a)(2)(i) or (ii) of this section.

(i) Use a flow indicator to determine if the presence of flow according to the requirements in §63.693(c)(2)(i); or

(ii) Use a seal or locking device and make monthly inspections as required by §63.693(c)(2)(ii).

(b) If you use a regenerable carbon adsorption system, you must meet the requirements in paragraphs (b)(1) through (3) of this section.

(1) Use a continuous parameter monitoring system (CPMS) to measure and record the hourly average total regeneration stream mass flow during each carbon adsorption cycle.

(2) Use a CPMS to measure and record the hourly average temperature of the adsorption bed during regeneration (except during the cooling cycle).

(3) Use a CPMS to measure and record the hourly average temperature of the adsorption bed after regeneration (and within 15 minutes after completing any cooling cycle).

(c) If you use a nonregenerable carbon adsorption system, you must use a CPMS to measure and record the hourly average temperature of the adsorption bed or you must monitor the concentration of organic compounds in the exhaust vent stream according to the requirements in §63.693(d)(4)(iii)(A).

(d) If you use a condenser, you must use a CPMS to measure and record the hourly average condenser exit temperature and determine and record the daily average condenser exit temperature.

(e) If you use a thermal incinerator, you must use a CPMS to measure and record the hourly average firebox temperature and determine and record the daily average firebox temperature.

(f) If you use a catalytic incinerator, you must use a CPMS with two temperature sensors to measure and record the hourly average temperature at the inlet of the catalyst bed, the hourly average temperature at the outlet of the catalyst bed, the hourly average temperature difference across the catalyst bed, and to determine and record the daily average temperature difference across the catalyst bed.

(g) If you use a boiler or process heater to meet an emission limitation, you must use a CPMS to measure and record the hourly average firebox temperature and determine and record the daily average firebox temperature.

(h) If you use a flare, you must monitor the operation of the flare using a heat sensing monitoring device according to the requirements in §63.693(h)(3).

(i) If you introduce the vent stream into the flame zone of a boiler or process heater according to the requirements in §63.7925(f)(1), you must use a CPMS to measure and record the combustion zone temperature.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

§ 63.7928 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for closed vent systems and control devices?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in this subpart applicable to your closed vent system and control device by meeting the requirements in paragraphs (b) through (j) of this section as applicable to your closed vent system and control device.

(b) You must demonstrate continuous compliance with the closed vent system work practice standards in §63.7925(c) by meeting the requirements in paragraphs (b)(1) through (7) of this section.

(1) For a closed vent system designed to operate with no detectable organic emissions, visually inspecting the closed vent system at least annually, monitoring after a repair or replacement using the procedures in §63.694(k), and monitoring at least annually according to the requirements in §63.695(c)(1)(ii).

(2) For a closed vent system designed to operate below atmospheric pressure, visually inspecting the closed vent system at least annually according to the requirements in §63.695(c)(2)(ii).

(3) Repairing defects according to the requirements in §63.695(c)(3).

(4) Keeping records of each inspection that include the information in paragraphs (b)(4)(i) through (iii) of this section:

(i) A closed vent system identification number (or other unique identification description you select).

(ii) Date of each inspection.

(iii) If a defect is detected during an inspection, the location of the defect, a description of the defect, the date of detection, the corrective action taken to repair the defect, and if repair is delayed, the reason for any delay and the date completion of the repair is expected.

(5) If you elect to monitor the closed vent system according to the requirements in §63.172(f) through (j), recording the information in §63.181.

(6) If the closed vent system is equipped with a flow indicator, recording the information in §63.693(c)(2)(i).

(7) If the closed vent system is equipped with a seal or locking device, visually inspecting the seal or closure mechanism at least monthly according to the requirements in §63.693(c)(2)(ii), and recording the results of each inspection.

(c) You must demonstrate continuous compliance of each control device subject to the emissions limits in §63.7925(d) with the applicable emissions limit in §63.7925(d) by meeting the requirements in paragraph (c)(1) or (2) of this section.

(1) For the emission limit in §63.7925(d)(1), maintaining the reduction in emissions of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from the control device at 95 percent by weight or greater.

(2) For the emission limit in §63.7925(d)(2), maintaining the concentration of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from the control device at 20 ppmv or less.

(d) You must demonstrate continuous compliance of each control device subject to operating limits in §63.7925(g) with the applicable limits by meeting the requirements in paragraphs (d)(1) through (4) of this section.

(1) Maintaining each operating limit according to the requirements in §63.7925(g) as applicable to the control device.

(2) Monitoring and inspecting each control device according to the requirements in §63.7927(b) through (i) as applicable to the control device.

(3) Operating and maintaining each continuous monitoring system according to the requirements in §63.7945, and collecting and reducing data according to the requirements in §63.7946.

(4) Keeping records to document compliance with the requirements of this subpart according to the requirements in §63.7952.

(e) You must demonstrate continuous compliance with the spent carbon replacement and disposal work practice standards for regenerable carbon adsorption systems in §63.7925(h)(1) by meeting the requirements in paragraphs (e)(1) through (3) of this section.

(1) Replacing the adsorbent as required by §63.7925(h)(1)(i).

(2) Following the disposal requirements for spent carbon in §63.693(d)(4)(ii).

(3) Keeping records to document compliance with the requirements of the work practice standards.

(f) You must demonstrate continuous compliance with the spent carbon replacement and disposal work practice standards for nonregenerable carbon adsorption systems in §63.7925(h)(2) by meeting the requirements in paragraphs (f)(1) through (3) of this section.

(1) Replacing the adsorbent as required by the work practice standard in §63.7925(h)(2)(i).

(2) Following the disposal requirements for spent carbon in §63.693(d)(4)(ii).

(3) Keeping records to document compliance with the requirements of the work practice standards.

(g) You must demonstrate continuous compliance with the spent carbon replacement and disposal work practice standards for nonregenerable carbon adsorption systems in §63.7925(h)(3) by meeting the requirements in paragraphs (g)(1) through (3) of this section.

(1) Monitoring the concentration level of the organic compounds in the exhaust vent for the carbon adsorption system as required in §63.7927(c), immediately replacing the carbon canister or carbon in the control device when breakthrough is indicated by the monitoring device, and recording the date of breakthrough and carbon replacement. Or, you must replace the carbon canister or carbon in the control device at regular intervals and record the date of carbon replacement.

(2) Following the disposal requirements for spent carbon in §63.693(d)(4)(ii).

(3) Keeping records to document compliance with the requirements of the work practice standards.

(h) You must demonstrate continuous compliance with the catalyst replacement work practice standards for catalytic incinerators in §63.7925(i) by meeting the requirements in paragraphs (h)(1) and (2) of this section.

(1) Replacing the existing catalyst bed as required in §63.7925(i).

(2) Keeping records to document compliance with the requirements of the work practice standards.

(i) You must demonstrate continuous compliance of each flare with the work practice standards in §63.7925(e) by meeting the requirements in paragraphs (i)(1) through (5) of this section.

(1) Operating the flare with no visible emissions except for up to 5 minutes in any 2 consecutive hours according to the requirements in §63.11(b)(4).

(2) Monitoring the presence of a pilot flare according to the requirements in §63.7927(h) and maintaining a pilot flame and flare flame at all times that emissions are not vented to the flare according to the requirements in §63.11(b)(5).

(3) Operating the flare with an exit velocity according to the requirements in §63.11(b)(6) through (8).

(4) Operating the flare with a net heating value of the gas being combusted according to the requirements in §63.11(b)(6)(ii).

(5) Keeping records to document compliance with the requirements of the work practice standards.

(j) You must demonstrate continuous compliance of each boiler or process heater with the work practice standards in §63.7925(f) by meeting the requirements in paragraphs (j)(1) through (3) of this section.

(1) For the work practice standards in §63.7925(f)(1), you must demonstrate continuous compliance by meeting the requirements in paragraphs (j)(1)(i) through (iv).

(i) Maintaining conditions in the combustion chamber at a residence time of 0.5 seconds or longer and at a combustion zone temperature at 760 °C or greater whenever the vent stream is introduced to the flame zone of the boiler or process heater.

(ii) Monitoring each boiler or process heater according to the requirements in §63.7927(i).

(iii) Operating and maintaining each continuous monitoring system according to the requirements in §63.7945, and collecting and reducing data according to the requirements in §63.7946.

(iv) Keeping records to document compliance with residence time design requirement.

(2) For the work practice standards in §63.7925(f)(2), you maintain the boiler or process heater operations such that the vent stream is introduced with the fuel according to the requirements in §63.693(g)(1)(iv), or that the vent stream is introduced to a boiler or process heater that meets the requirements in §63.693(g)(1)(v).

(3) For the work practice standard in §63.7925(f)(3), you remain in compliance with all terms and conditions of the final permit under 40 CFR part 270 and your boiler or process heater complies with the requirements of 40 CFR part 266, subpart H—Hazardous Waste Burned in Boilers and Industrial Furnaces; or in compliance with the interim status requirements of 40 CFR part 266, subpart H, as applicable to your boiler or process heater.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

General Compliance Requirements
§ 63.7935 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emissions limitations (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) You must develop a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in §63.6(e)(3).

(d) [Reserved]

(e) You must report each instance in which you did not meet each emissions limitation and each operating limit that applies to you. This includes periods of startup, shutdown, and malfunction. You must also report each instance in which you did not meet the requirements for work practice standards that apply to you. These instances are deviations from the emissions limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in §63.7951.

(f) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1). We will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e).

(g) For each monitoring system required in this section, you must develop and make available for inspection by the permitting authority, upon request, a site-specific monitoring plan that addresses the following:

(1) Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device).

(2) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system.

(3) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(h) In your site-specific monitoring plan, you must also address the following:

(1) Ongoing operation and maintenance procedures according to the general requirements of §63.8(c)(1), (3), (4)(ii), (7), and (8).

(2) Ongoing data quality assurance procedures according to the general requirements of §63.8(d).

(3) Ongoing recordkeeping and reporting procedures according to the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(i) You must operate and maintain the continuous monitoring system according to the site-specific monitoring plan.

(j) You must conduct a performance evaluation of each continuous monitoring according to your site-specific monitoring plan.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 20468, Apr. 20, 2006; 71 FR 69018, Nov. 29, 2006]

§ 63.7936 What requirements must I meet if I transfer remediation material off-site to another facility?

(a) If you transfer to another facility a remediation material generated by your remediation activities and having an average total VOHAP concentration equal to or greater than 10 ppmw (as determined using the procedures specified in §63.7943), then you must transfer the remediation material to a facility that meets the requirements in paragraph (b) of this section. You must record the name, street address, and telephone number of the facility where you send this remediation material.

(b) You may elect to transfer the remediation material to one of the following facilities:

(1) A facility where your remediation material will be directly disposed in a landfill or other land disposal unit according to all applicable Federal and State requirements.

(2) A facility subject to 40 CFR part 63, subpart DD where the exemption under §63.680(b)(2)(iii) is waived and air emissions from the management of your remediation material at the facility are controlled according to all applicable requirements in the subpart for an off-site material. Prior to sending your remediation material, you must obtain a written statement from the owner or operator of the facility to which you send your remediation material acknowledging that the exemption under §63.680(b)(2)(iii) will be waived for all remediation material received at the facility from you and your material will be managed as an off-site material at the facility according to all applicable requirements. This statement must be signed by the responsible official of the receiving facility, provide the name and address of the receiving facility, and a copy sent to the appropriate EPA Regional Office at the addresses listed in 40 CFR 63.13.

(3) A facility where your remediation material will be managed according to all applicable requirements under this Subpart.

(i) You must prepare and include a notice with each shipment or transport of remediation material from your site. This notice must state that the remediation material contains organic HAP that are to be treated according to the provisions of this subpart. When the transport is continuous or ongoing (for example, discharge to a publicly owned treatment works), the notice must be submitted to the receiving facility owner or operator initially and whenever there is a change in the required treatment.

(ii) You may not transfer the remediation material unless the owner or operator of the facility receiving your remediation material has submitted to the EPA a written certification that he or she will manage remediation material received from you according to the requirements of §§63.7885 through 63.7957. The receiving facility owner or operator may revoke the written certification by sending a written statement to the EPA and to you providing at least 90 days notice that they rescind acceptance of responsibility for compliance with the regulatory provisions listed in this section. Upon expiration of the notice period, you may not transfer your remediation material to the facility.

(iii) By providing the written certification to the EPA, the receiving facility owner or operator accepts responsibility for compliance with the regulatory provisions listed in paragraph (b)(3) of this section with respect to any shipment of remediation material covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by the EPA against the certifying entity according to the enforcement provisions applicable to violations of these provisions by owners or operators of sources.

(iv) Written certifications and revocation statements to the EPA from the receiving facility owner or operator must be signed by the responsible official of the receiving facility, provide the name and address of the receiving facility, and a copy sent to the appropriate EPA Regional Office at the addresses listed in 40 CFR 63.13. Such written certifications are not transferable.

(c) Acceptance by a facility owner or operator of remediation material from a site remediation subject to this Subpart does not, by itself, require the facility owner or operator to obtain a title V permit under 40 CFR 70.3 or 40 CFR 71.3.

§ 63.7937 How do I demonstrate initial compliance with the general standards?

(a) You must demonstrate initial compliance with the general standards in §§63.7884 through 63.7887 that apply to your affected sources by meeting the requirements in paragraphs (b) through (d) of this section, as applicable to you.

(b) You must demonstrate initial compliance with the general standards in §63.7885 that apply to your affected process vents by meeting the requirements in paragraphs (b)(1) through (4) of this section, as applicable to your process vents.

(1) If HAP emissions are controlled from the affected process vents according to the emission limitations and work practice standards specified in §63.7885(b)(1), you have met the initial compliance requirements in §63.7891.

(2) If the remediation material treated or managed by the process vented through the affected process vents has an average total VOHAP less than 10 ppmw according to §63.7885(b)(2), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have determined, according to the procedures §63.7943, and recorded the average VOHAP concentration of the remediation material placed in the affected remediation material management unit.

(3) If HAP emissions are controlled from the affected process vents to meet standards in another subpart under 40 CFR part 61 or 40 CFR part 63 according to §63.7885(b)(3), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(3)(i) and (ii) of this section.

(i) You include in your statement the citations for the specific emission limitations and work practice standards that apply to the process vents under the subpart in 40 CFR part 61 or 40 CFR part 63 that the vents are also subject.

(ii) You are complying with all applicable emissions limitations and work practice standards specified by the applicable subpart.

(4) For each process vent exempted according to §63.7885(c), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (b)(4)(i) and (ii) of this section.

(i) You identify in your statement each process vent that qualifies for an exemption and the exemption conditions in §63.7885(c)(1)(i) or (ii) that apply to each exempted process vent.

(ii) You have performed the measurements and prepared the documentation required in §63.7885(c)(2) that demonstrates that each exempted process vent stream meets the applicable exemption conditions in §63.7885(c)(1).

(c) You must demonstrate initial compliance with the general standards in §63.7886 that apply to your affected remediation material management units by meeting the requirements in paragraphs (c)(1) through (6) of this section, as applicable to your remediation material management units.

(1) If the remediation material management unit uses air pollution controls according to the standards specified in §63.7886(b)(1), you have met the initial compliance requirements applicable to the remediation material management unit in §§63.7896, 63.7901, 63.7906, 63.7911, or 63.7816.

(2) If the remediation material managed in the affected remediation material management unit has an average total VOHAP concentration less than 500 ppmw according to §63.7886(b)(2), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have determined, according to the procedures in §63.7943, and recorded the average VOHAP concentration of the remediation material placed in the affected remediation material management unit.

(3) If HAP emissions are controlled from the affected remediation material management units to meet standards in another subpart under 40 CFR part 61 or 40 CFR part 63 according to §63.7886(b)(3), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(3)(i) and (ii) of this section.

(i) You include in your statement the citations for the specific emission limitations and work practice standards that apply to the remediation material management units under the subpart in 40 CFR part 61 or 40 CFR part 63 that the units are also subject.

(ii) You are complying with all applicable emissions limitations and work practice standards specified by the applicable subpart.

(4) If HAP emissions are controlled from the affected remediation material management unit that is an open tank or surface impoundment used for a biological treatment process according to §63.7886(b)(4), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(4)(i) and (ii) of this section.

(i) You have performed the measurements and prepared the documentation required in §63.7886(b)(4)(i) that demonstrates that each unit meets the applicable performance levels.

(ii) You will monitor the biological treatment process conducted in each unit according to the requirements in §63.684(e)(4).

(5) For each remediation material management unit used for cleanup of radioactive mixed waste and exempted according to §63.7886(c), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(5)(i) and (ii) of this section.

(i) You include in your statement the citations for the specific requirements that apply to the remediation material management units under regulations, directives, and other requirements under the Atomic Energy Act, the Nuclear Waste Policy Act, or the Waste Isolation Pilot Plant Land Withdrawal Act.

(ii) You are complying with all requirements that apply to the remediation material management units under the applicable regulations or directives.

(6) For each remediation material management unit exempted according to §63.7886(d), you have submitted as part of your notification of compliance status, specified in §63.7950, a signed statement that you have met the requirements in paragraphs (c)(6)(i) and (ii) of this section.

(i) You have designated according to the requirements in §63.7886(d)(1) each of the remediation material management units you are selecting to be exempted.

(ii) You have performed an initial determination and prepared the documentation required in §63.7886(d)(2) that demonstrates that the total annual HAP quantity (based on the HAP listed in Table 1 of this subpart) in the remediation material placed in all of the designated exempted remediation material management units will be less than 1 Mg/yr.

(d) You must demonstrate initial compliance with the general standards in §63.7887 that apply to your affected equipment leak sources by meeting the requirements in §63.7921.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

§ 63.7938 How do I demonstrate continuous compliance with the general standards?

(a) You must demonstrate continuous compliance with the general standards in §§63.7884 through 63.7887 that apply to your affected sources by meeting the requirements in paragraphs (b) through (d) of this section, as applicable to you.

(b) You have demonstrated continuous compliance with the general standards in §63.7885 that apply to your affected process vents by meeting the requirements in paragraphs (b)(1) through (4) of this section, as applicable to your process vents.

(1) If HAP emissions are controlled from the affected process vents according to the emission limitations and work practice standards specified in §63.7885(b)(1), you must demonstrate continuous compliance by meeting the requirements in §63.7893.

(2) If the remediation material treated or managed by the process vented through the affected process vents has an average total VOHAP less than 10 ppmw according to §63.7885(c)(1), you must demonstrate continuous compliance by performing a new determination and preparing new documentation as required in §63.7885(c)(2) to show that the total VOHAP concentration of the remediation material remains less than 10 ppmw.

(3) If HAP emissions are controlled from the affected process vents to meet standards in another subpart under 40 CFR part 61 or 40 CFR part 63 according to §63.7885(b)(3), you must demonstrate continuous compliance by complying with all applicable emissions limitations and work practice standards specified by the applicable subpart.

(4) For each process vent exempted according to §63.7885(c), you must demonstrate continuous compliance by performing new measurements and preparing new documentation as required in §63.7885(c)(2) that demonstrates that each exempted process vent stream meets the applicable exemption conditions in §63.7885(c)(1).

(c) You must demonstrate continuous compliance with the general standards in §63.7886 that apply to your affected remediation material management units by meeting the requirements in paragraphs (c)(1) through (6) of this section, as applicable to your remediation material management units.

(1) If the remediation material management unit uses air pollution controls according to the standards specified in §63.7886(b)(1), you must demonstrate continuous compliance by meeting the requirements applicable to the remediation material management unit in §§63.7898, 63.7903, 63.7908, 63.7913, or 63.7818.

(2) If the remediation material managed in the affected remediation material managements has an average total VOHAP concentration less than 500 ppmw according to §63.7886(b)(2), you must demonstrate continuous compliance by performing a new determination and preparing new documentation as required in §63.7886(c)(2) to show that the total VOHAP concentration of the remediation material remains less than 500 ppmw.

(3) If HAP emissions are controlled from the affected remediation material management units to meet standards in another subpart under 40 CFR part 61 or 40 CFR part 63 according to §63.7886(b)(3), you must demonstrate continuous compliance by meeting all applicable emissions limitations and work practice standards specified by the applicable subpart.

(4) If HAP emissions are controlled from the affected remediation material management unit that is an open tank or surface impoundment used for a biological treatment process according to §63.7886(b)(4), you must demonstrate continuous compliance by meeting the requirements in paragraphs (c)(4)(i) and (ii) of this section.

(i) Performing new measurements and preparing new documentation as required in §63.7886(4)(i) that demonstrates that each unit meets the applicable performance levels.

(ii) Monitoring the biological treatment process conducted in each unit according to the requirements in §63.7886(4)(i).

(5) For each remediation material management unit used for cleanup of radioactive mixed waste and exempted according to §63.7886(c), you must demonstrate continuous compliance by meeting all requirements that apply to the remediation material management units under the applicable regulations or directives.

(6) For each remediation material management unit exempted according to §63.7886(d), you must demonstrate continuous compliance by performing new measurements and preparing new documentation as required in §63.7886(d)(2) to show that the total annual HAP quantity (based on the HAP listed in Table 1 of this subpart) in the remediation material placed in all of the designated exempted remediation material management units remains less than 1 Mg/yr.

(d) You have demonstrated continuous compliance with the general standards in §63.7887 that apply to your affected equipment leak sources by meeting the requirements in §63.7923.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69018, Nov. 29, 2006]

Performance Tests
§ 63.7940 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) You must conduct a performance test or design evaluation for each existing affected source within 180 calendar days after the compliance date that is specified in §63.7883.

(b) For each work practice standard that applies to you where initial compliance is not demonstrated using a performance test or design evaluation, you must demonstrate initial compliance within 30 calendar days after the compliance date that is specified in §63.7883 for your affected source.

(c) For new sources, you must conduct initial performance tests and other initial compliance demonstrations according to the provisions in §63.7(a)(2).

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69019, Nov. 29, 2006]

§ 63.7941 How do I conduct a performance test, design evaluation, or other type of initial compliance demonstration?

(a) You must conduct a performance test or design evaluation to demonstrate initial compliance for each new or existing affected source that is subject to an emission limit in this subpart. You must report the results of the performance test or design evaluation according to the requirements in §63.7950(e)(1).

(b) If you choose to conduct a performance test to demonstrate initial compliance, you must conduct the test according to the requirements in §63.7(e)(1) and paragraphs (b) (1) through (5) of this section.

(1) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(2) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(3) You must conduct each performance test using the test methods and procedures in §63.694(l).

(4) Follow the procedures in paragraphs (b)(4)(i) through (iii) of this section to determine compliance with the facility-wide total organic mass emissions rate in §63.7890(a)(1)(i).

(i) Determine compliance with the total organic mass flow rate using Equation 1 of this section as follows:

$$E_h = \left(0.0416 \times 10^{-6}\right) Q_{sd} \sum_{i=1}^{n} \left(C_i \times MW_i\right) \qquad \text{(Eq. 1)}$$

Where:

E_h= Total organic mass flow rate, kg/h;

Q_{sd}= Volumetric flow rate of gases entering or exiting control device (or exiting the process vent if no control device is used), as determined by Method 2 of 40 CFR part 60, appendix A, dscm/h;

n = Number of organic compounds in the vent gas;

C_i= Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18 of 40 CFR part 60, appendix A;

MW_i= Molecular weight of organic compound i in the vent gas,kg/kg-mol;

(ii) Determine compliance with the annual total organic emissions rate using Equation 2 of this section as follows:

$$E_A = E_h \times H \qquad \text{(Eq. 2)}$$

Where:

E_A= Total organic mass emissions rate, kilograms per year;

E_h= Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operation for the affected unit, h.

(iii) Determine compliance with the total organic emissions limit from all affected process vents at the facility by summing the total hourly organic mass emissions rates ($E_h$as determined in Equation 1 of this section) and summing the total annual organic mass emissions rates (E_A, as determined in Equation 2 of this section) for all affected process vents at the facility.

(5) Determine compliance with the 95 percent reduction limit in §63.7890(a)(2)(i) for the combination of all affected process vents at the facility using Equations 3 and 4 of this section to calculate control device inlet and outlet concentrations and Equation 5 of this section to calculate control device emission reductions for process vents as follows:

$$E_i = K_2 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i \qquad (Eq.\ 3)$$

$$E_o = K_2 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o \qquad (Eq.\ 4)$$

Where:

C_{ij}, C_{oj}= Concentration of sample component j of the gas stream at the inlet and outlet of the control device, dry basis, parts per million by volume. For uncontrolled vents, C_{ij}= $C_{oj}$and equal the concentration exiting the vent;

E_i, E_o= Mass rate of total organic compounds (TOC) (minus methane and ethane) or total HAP, from Table 1 of this subpart, at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour. For uncontrolled vents, E_i= $E_o$and equal the concentration exiting the vent;

M_{ij}, M_{oj}= Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole. For uncontrolled vents, M_{ij}= $M_{oj}$and equal the gas stream molecular weight exiting the vent;

Q_i, Q_o= Flowrate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meters per minute (dscm/min). For uncontrolled vents, Q_i= $Q_o$and equals the flowrate exiting the vent;

K_2= Constant, 2.494×10^{-6}(parts per million)$^{-1}$(gram-mole per standard cubic meter) (kilogram/gram)(minute/hour, where standard temperature (gram-mole per standard cubic meter) is 20 °C);

n = the number of components in the sample.

$$R_v = \frac{\sum_{j=1}^{n} E_i - \sum_{j=1}^{n} E_o}{\sum_{j=1}^{n} E_i} \times 100 \qquad \text{(Eq. 5)}$$

Where:

R_v= Overall emissions reduction for all affected process vents, percent

E_i= Mass rate of TOC (minus methane and ethane) or total HAP, from Table 1 of this subpart, at the inlet to the control device, or exiting the vent for uncontrolled vents, as calculated in this section, kilograms TOC per hour or kilograms HAP per hour;

E_o= Mass rate of TOC (minus methane and ethane) or total HAP, from Table 1 of this subpart, at the outlet to the control device, or exiting the vent for uncontrolled vents, as calculated in this section, kilograms TOC per hour or kilograms HAP per hour. For vents without a control device, E_o= E_i;

n = number of affected source process vents.

(c) If you use a carbon adsorption system, condenser, vapor incinerator, boiler, or process heater to meet an emission limit in this subpart, you may choose to perform a design evaluation to demonstrate initial compliance instead of a performance test. You must perform a design evaluation according to the general requirements in §63.693(b)(8) and the specific requirements in §63.693(d)(2)(ii) for a carbon adsorption system (including establishing carbon replacement schedules and associated requirements), §63.693(e)(2)(ii) for a condenser, §63.693(f)(2)(ii) for a vapor incinerator, or §63.693(g)(2)(i)(B) for a boiler or process heater.

(d) During the performance test or design evaluation, you must collect the appropriate operating parameter monitoring system data, average the operating parameter data over each test run, and set operating limits, whether a minimum or maximum value, based on the average of values for each of the three test runs. If you use a control device design analysis to demonstrate control device performance, then the minimum or maximum operating parameter value must be established based on the control device design analysis and supplemented, as necessary, by the control device manufacturer recommendations or other applicable information.

(e) If you control air emissions from an affected source by introducing the vent stream into the flame zone of a boiler or process heater according to the requirements in §63.693(g)(1)(iii), you must conduct a performance test or design evaluation to demonstrate that the boiler or process heater meets the applicable emission limit while operating at a residence time of 0.5 seconds or greater and at a combustion zone temperature of 760 °C or higher.

(f) You must conduct a performance evaluation for each continuous monitoring system according to the requirements in §63.8(e).

(g) If you are required to conduct a visual inspection of an affected source, you must conduct the inspection according to the procedures in §63.906(a)(1) for Tank Level 1 controls, §63.1063(d) for Tank Level 2 controls, §63.926(a) for Container Level 1 controls, §63.946(a) for a surface impoundment equipped with a floating membrane cover, §63.946(b) for a surface impoundment equipped with a cover and vented to a control device, §63.1047(a) for a separator with a fixed roof, §63.1047(c) for a separator equipped with a fixed roof and vented to a control device, §63.695(c)(1)(i) or (c)(2)(i) for a closed vent system, and §63.964(a) for individual drain systems.

(h) [Reserved]

(i) If you use Container Level 2 controls, you must conduct a test to demonstrate that the container operates with no detectable organic emissions or that the container is vapor-tight. You must conduct the test using Method 21 (40 CFR part 60, appendix A) and the procedures in §63.925(a) to demonstrate that the container operates with no detectable organic emissions or Method 27 (40 CFR part 60, appendix A) and the procedures in §63.925(b) to demonstrate that the container is vapor-tight.

(j) If you locate an affected source inside a permanent total enclosure that is vented to a control device, you must demonstrate that the enclosure meets the verification criteria in section 5 of Procedure T in 40 CFR 52.741, appendix B.

(k) If you use a fixed roof or a floating roof to control air emissions from a separator, you must conduct a test to demonstrate that the roof operates with no detectable organic emissions using Method 21 (40 CFR part 60, appendix A) and the procedures in §63.1046(a). If you use a floating roof, you also must measure the seal gaps according to the procedures in §63.1046(b).

(l) If you use a flare to control air emissions, you must conduct a visible emissions test using Method 22 in 40 CFR part 60, appendix A, and the procedures in §63.11(b)(4).

(m) For each initial compliance demonstration that requires a performance test or design evaluation, you must report the results in your notification of compliance status according to the requirements in §63.7950(e)(1). For each initial compliance demonstration that does not require a performance test or design evaluation, you must submit a notification of compliance status according to the requirements in §63.7950(e)(2).

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69019, Nov. 29, 2006]

§ 63.7942 When must I conduct subsequent performance tests?

For non-flare control devices, you must conduct performance tests at any time the EPA requires you to according to §63.7(3).

§ 63.7943 How do I determine the average VOHAP concentration of my remediation material?

(a) General requirements. You must determine the average total VOHAP concentration of a remediation material using either direct measurement as specified in paragraph (b) of this section or by knowledge as specified in paragraph (c) of this section. These methods may be used to determine the average VOHAP concentration of any material listed in (a)(1) through (3) of this section.

(1) A single remediation material stream; or

(2) Two or more remediation material streams that are combined prior to, or within, a remediation material management unit or treatment process; or

(3) Remediation material that is combined with one or more non-remediation material streams prior to, or within, a remediation material management unit or treatment process.

(b) Direct measurement. To determine the average total VOHAP concentration of a remediation material using direct measurement, you must use the procedures in paragraphs (b)(1) through (3) of this section.

(1) Sampling. Samples of each material stream must be collected from the container, pipeline, or other device used to deliver each material stream prior to entering the remediation material management unit or treatment process in a manner such that volatilization of organics contained in the sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(i) The averaging period to be used for determining the average total VOHAP concentration for the material stream on a mass-weighted average basis must be designated and recorded. The averaging period can represent any time interval that you determine is appropriate for the material stream but must not exceed 1 year. For streams that are combined, an averaging period representative for all streams must be selected.

(ii) No less than four samples must be collected to represent the complete range of HAP compositions and HAP quantities that occur in each material stream during the entire averaging period due to normal variations in the material stream(s). Examples of such normal variations are variation of the HAP concentration within a contamination area.

(iii) All samples must be collected and handled according to written procedures you prepare and document in a site sampling plan. This plan must describe the procedure by which representative samples of the material stream(s) are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan must be maintained on site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures according to the guidance found in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW–846 or Method 25D in 40 CFR part 60, appendix A.

(2) Analysis. Each collected sample must be prepared and analyzed according to either one of the methods listed in §63.694(b)(2)(ii), or any current EPA Contracts Lab Program method (or future revisions) capable of identifying all the HAP in Table 1 of this subpart.

(3) Calculations. The average total VOHAP concentration (C) on a mass-weighted basis must be calculated by using the results for all samples analyzed according to paragraph (b)(2) of this section and Equation 1 of this section as follows:

$$\bar{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n} (Q_i \times C_i) \qquad (Eq.\ 1)$$

Where:

C= Average VOHAP concentration of the material on a mass-weighted basis, ppmw.

i = Individual sample “i” of the material.

n = Total number of samples of the material collected (at least 4 per stream) for the averaging period (not to exceed 1 year).

Q_i= Mass quantity of material stream represented by C_i, kilograms per hour (kg/hr).

Q_T= Total mass quantity of all material during the averaging period, kg/hr.

C_i= Measured VOHAP concentration of sample “i” as determined according to the requirements of paragraph (b)(2) of this section, ppmw.

(c) Knowledge of the material. To determine the average total VOHAP concentration of a remediation material using knowledge, you must use the procedures in paragraphs (c)(1) through (3) of this section.

(1) Documentation must be prepared that presents the information used as the basis for your knowledge of the material stream's average VOHAP concentration. Examples of information that may be used as the basis for knowledge include: material balances for the source(s) generating each material stream; species-specific chemical test data for the material stream from previous testing that are still applicable to the current material stream; test data for material from the contamination area(s) being remediated.

(2) If test data are used as the basis for knowledge, then you must document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VOHAP concentration. For example, you may use HAP concentration test data for the material stream that are validated according to Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the material. This information must be provided for each material stream where streams are combined.

(3) If you use species-specific chemical concentration test data as the basis for knowledge of the material, you may adjust the test data to the corresponding average VOHAP concentration value which would be obtained had the material samples been analyzed using Method 305. To adjust these data, the measured concentration for each individual HAP chemical species contained in the material is multiplied by the appropriate species-specific adjustment factor (f_{m305}) listed in Table 1 of this subpart.

(d) In the event that you and us disagree on a determination using knowledge of the average total VOHAP concentration for a remediation material, then the results from a determination of VOHAP concentration using direct measurement by Method 305 in 40 CFR part 60 appendix A, as specified in paragraph (b) of this section, will be used to determine compliance with the applicable requirements of this subpart. We may perform or request that you perform this determination using direct measurement.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69019, Nov. 29, 2006]

§ 63.7944 How do I determine the maximum HAP vapor pressure of my remediation material?

(a) You must determine the maximum HAP vapor pressure of your remediation material using either direct measurement as specified in paragraph (b) of this section or by knowledge as specified in paragraph (c) of this section.

(b) Direct measurement to determine the maximum HAP vapor pressure.

(1) Sampling. A sufficient number of samples must be collected to be representative of the remediation material contained in the tank. All samples must be collected and handled according to written procedures prepared by you and documented in a site sampling plan. This plan must describe the procedure by which representative samples of the remediation material are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan must be maintained on site in the facility site operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures according to the guidance found in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW–846 or Method 25D in 40 CFR part 60, appendix A.

(2) Analysis. Any one of the following methods may be used to analyze the samples and compute the maximum HAP vapor pressure of the remediation material:

(i) Method 25E in 40 CFR part 60 appendix A;

(ii) Methods described in American Petroleum Institute Bulletin 2517, “Evaporation Loss from External Floating Roof Tanks,”;

(iii) Methods obtained from standard reference texts;

(iv) ASTM Method 2879–83; or

(v) Any other method approved by the Administrator.

(c) Use of knowledge to determine the maximum HAP vapor pressure. Documentation must be prepared and recorded that presents the information used as the basis for your knowledge that the maximum HAP vapor pressure of the remediation material is less than the maximum vapor pressure limit listed in Table 2 of this subpart for the applicable tank design capacity category.

(d) In the event that you and us disagree on a determination using knowledge of the maximum HAP vapor pressure of the remediation material, then the results from a determination of maximum HAP vapor pressure using direct measurement by Method 25E in 40 CFR part 60 appendix A, as specified in paragraph (b) of this section, will be used to determine compliance with the applicable requirements of this subpart. We may perform or request that you perform this determination using direct measurement.

Continuous Monitoring Systems
§ 63.7945 What are my monitoring installation, operation, and maintenance requirements?

(a) Each CPMS must meet the requirements in paragraphs (a)(1) through (4) of this section.

(1) Complete a minimum of one cycle of operation for each successive 15-minute period.

(2) To calculate a valid hourly value, you must have at least three of four equally spaced data values (or at least two, if that condition is included to allow for periodic calibration checks) for that hour from a CPMS that is not out of control according to the monitoring plan referenced in §63.7935.

(3) To calculate the average emissions for each averaging period, you must have at least 75 percent of the hourly averages for that period using only block hourly average values that are based on valid data (*i.e.,* not from out-of-control periods).

(4) Unless otherwise specified, each CPMS must determine the hourly average of all recorded readings and daily average, if required.

(b) You must record the results of each inspection, calibration, and validation check.

(c) You must conduct a performance evaluation for each CPMS according to the requirements in §63.8(e) and your site-specific monitoring plan.

§ 63.7946 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and your site-specific monitoring plan required in §63.7935.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, out of control periods and required quality assurance or control activities in data averages and calculations used to report emissions or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

§ 63.7947 What are my monitoring alternatives?

(a) As an alternative to the parametric monitoring required in this subpart, you may install, calibrate, and operate a continuous emission monitoring system (CEMS) to measure the control device outlet total organic emissions or organic HAP emissions concentration.

(1) The CEMS used on combustion control devices must include a diluent gas monitoring system (for O_2or CO_2) with the pollutant monitoring system in order to correct for dilution (*e.g.,* to 0 percent excess air).

(2) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Data must be reduced as specified in §63.8(g)(2).

(3) You must conduct a performance evaluation of the CEMS according to the requirements in §63.8 and Performance Specification 8 (for a total organic emissions CEMS) or Performance Specification 9 (for a HAP emissions CEMS) and Performance Specification 3 (for an O_2or CO_2CEMS) of 40 CFR part 60, appendix B. The relative accuracy provision of Performance Specification 8, sections 2.4 and 3 need not be conducted.

(4) You must prepare a site-specific monitoring plan for operating, calibrating, and verifying the operation of your CEMS according to the requirements in §§63.8(c), (d), and (e).

(5) You must establish the emissions concentration operating limit according to paragraphs (a)(5)(i) and (ii) of this section.

(i) During the performance test, you must monitor and record the total organic or HAP emissions concentration at least once every 15 minutes during each of the three test runs.

(ii) Use the data collected during the performance test to calculate and record the average total organic or HAP emissions concentration maintained during the performance test. The average total organic or HAP emissions concentration, corrected for dilution as appropriate, is the maximum operating limit for your control device.

(b) You must maintain the daily (24-hour) average total organic or HAP emissions concentration in the exhaust vent stream of the control device outlet less than or equal to the site-specific operating limit established during the performance test.

Notification, Reports, and Records
§ 63.7950 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), 63.8(f)(4) and (6), and 63.9(b) through (h) that apply to you.

(b) As specified in §63.9(b)(2), if you start up your affected source before October 8, 2003, you must submit an Initial Notification not later than 120 calendar days after October 8, 2003.

(c) As specified in §63.9(b)(3), if you start up your new or reconstructed affected source on or after the effective date, you must submit an Initial Notification no later than 120 calendar days after initial startup.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in §63.7(b)(1).

(e) If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration that includes a performance test or design evaluation, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2). You must submit the complete design evaluation and supporting documentation.

(2) For each initial compliance demonstration that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(f) You must provide written notification to the Administrator of the alternative standard selected under §63.1006(b)(5) or (6) before implementing either of the provisions.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69019, Nov. 29, 2006]

§ 63.7951 What reports must I submit and when?

(a) Compliance report due dates. Unless the Administrator has approved a different schedule, you must submit a semiannual compliance report to your permitting authority according to the requirements specified in paragraphs (a)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.7883 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for your affected source.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after your first compliance report is due.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates specified in paragraphs (a)(1) through (4) of this section.

(b) Compliance report contents. Each compliance report must include the information specified in paragraphs (b)(1) through (3) of this section and, as applicable, paragraphs (b)(4) through (9) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took action consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there were no deviations from any emissions limitations (including operating limit), work practice standards, or operation and maintenance requirements, a statement that there were no deviations from the emissions limitations, work practice standards, or operation and maintenance requirements during the reporting period.

(6) If there were no periods during which a continuous monitoring system (including a CPMS or CEMS) was out-of-control as specified by §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(7) For each deviation from an emissions limitation (including an operating limit) that occurs at an affected source for which you are not using a continuous monitoring system (including a CPMS or CEMS) to comply with an emissions limitation or work practice standard required in this subpart, the compliance report must contain the information specified in paragraphs (b)(1) through (4) and (b)(7)(i) and (ii) of this section. This requirement includes periods of startup, shutdown, and malfunction.

(i) The total operating time of each affected source during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause) as applicable and the corrective action taken.

(8) For each deviation from an emissions limitation (including an operating limit) or work practice standard occurring at an affected source where you are using a continuous monitoring system (including a CPMS or CEMS) to comply with the emissions limitations or work practice standard in this subpart, you must include the information specified in paragraphs (b)(1) through (4) and (b)(8)(i) through (xi) of this section. This requirement includes periods of startup, shutdown, and malfunction.

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control, including the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviations during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes.

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

(viii) A brief description of the process units.

(ix) A brief description of the continuous monitoring system.

(x) The date of the latest continuous monitoring system certification or audit.

(xi) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(9) You must include the information on equipment leaks required in periodic reports by §63.1018(a) or §63.1039(b).

(c) Immediate startup, shutdown, and malfunction report. If you had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report according to the requirements of §63.10(d)(5)(ii) .

(d) Part 70 monitoring report. If you have obtained a title V operating permit for an affected source pursuant to 40 CFR part 70 or 40 CFR part 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If you submit a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation you may have to report deviations from permit requirements for an affected source to your permitting authority.

§ 63.7952 What records must I keep?

(a) You must keep the records specified in paragraphs (a)(1) through (4) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(1) and (b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startups, shutdowns, and malfunctions.

(3) Results of performance tests and performance evaluations as required by §63.10(b)(2)(viii).

(4) The records of initial and ongoing determinations for affected sources that are exempt from control requirements under this subpart.

(b) For each continuous monitoring system, you must keep the records as described in paragraphs (b)(1) and (2) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi) that apply to your continuous monitoring system.

(2) Performance evaluation plans, including previous (i.e., superseded) versions of the plan as required in §63.8(d)(3).

(c) You must keep the records required by this subpart to show continuous compliance with each emissions limitation, work practice standard, and operation and maintenance requirement that applies to you.

(d) You must record, on a semiannual basis, the information in §63.696(g) for planned routine maintenance of a control device for emissions from process vents.

§ 63.7953 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep your files of all information (including all reports and notifications) for 5 years following the date of each occurrence, measurement, maintenance, action taken to correct the cause of a deviation, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

(d) If, after the remediation activity is completed, there is no other remediation activity at the facility, and you are no longer the owner of the facility, you may keep all records for the completed remediation activity at an off-site location provided you notify the Administrator in writing of the name, address and contact person for the off-site location.

Other Requirements and Information
§ 63.7955 What parts of the General Provisions apply to me?

Table 3 of this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.7956 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to the EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office (see list in §63.13) to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the non-opacity emissions limitations and work practice standards in this subpart under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69019, Nov. 29, 2006]

§ 63.7957 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in §63.2, and in this section. If a term is defined both in this section and in another subpart cross-referenced by this subpart, then the term will have the meaning given in this section for purposes of this subpart.

Boiler means an enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator or a process heater.

Closed vent system means a system that is not open to the atmosphere and is composed of hard-piping, ductwork, connections, and, if necessary, fans, blowers, or other flow-inducing device that conveys gas or vapor from an emissions point to a control device.

Closure device means a cap, hatch, lid, plug, seal, valve, or other type of fitting that prevents or reduces air pollutant emissions to the atmosphere by blocking an opening in a cover when the device is secured in the closed position. Closure devices include devices that are detachable from the cover (*e.g.,* a sampling port cap), manually operated (*e.g.,* a hinged access lid or hatch), or automatically operated (*e.g.,* a spring-loaded pressure relief valve).

Container means a portable unit used to hold material. Examples of containers include, but are not limited to drums, dumpsters, roll-off boxes, bulk cargo containers commonly known as portable tanks or totes, cargo tank trucks, dump trucks, and rail cars. For the purpose of this subpart, a front-end loader, excavator, backhoe, or other type of self-propelled excavation equipment is not a container.

Continuous record means documentation of data values measured at least once every 15 minutes and recorded at the frequency specified in this subpart.

Continuous recorder means a data recording device that either records an instantaneous data value at least once every 15 minutes or records 15-minutes or more frequent block averages.

Control device means equipment used recovering, removing, oxidizing, or destroying organic vapors. Examples of such equipment include but are not limited to carbon adsorbers, condensers, vapor incinerators, flares, boilers, and process heaters.

Cover means a device that prevents or reduces air pollutant emissions to the atmosphere by forming a continuous barrier over the remediation material managed in a unit. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit (such as a tarp) or a cover may be formed by structural features permanently integrated into the design of the unit.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emissions limitation (including any operating limit), or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emissions limitation, (including any operating limit), or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emissions limitation means any emissions limit, opacity limit, operating limit, or visible emissions limit.

Emissions point means an individual tank, surface impoundment, container, oil-water, organic-water separator, transfer system, vent, or enclosure.

Enclosure means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapor through a closed vent system to a control device.

Equipment means each pump, pressure relief device, sampling connection system, valve, and connector used in remediation material service at a facility.

External floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a tank with no fixed roof.

Facility means all contiguous or adjoining property that is under common control including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof. A unit or group of units within a contiguous property that are not under common control (*e.g.,* a wastewater treatment unit located at the facility but is owned by a different company) is a different facility.

Fixed roof means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the liquid managed in the unit.

Flame zone means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

Floating roof means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the liquid being contained, and is equipped with a continuous seal.

Flow indicator means a device that indicates whether gas is flowing, or whether the valve position would allow gas to flow in a bypass line.

Hard-piping means pipe or tubing that is manufactured and properly installed according to relevant standards and good engineering practices.

Individual drain system means a stationary system used to convey wastewater streams or residuals to a remediation material management unit or to discharge or disposal. The term includes hard-piping, all drains and junction boxes, together with their associated sewer lines and other junction boxes (*e.g.,*

manholes, sumps, and lift stations) conveying wastewater streams or residuals. For the purpose of this subpart, an individual drain system is not a drain and collection system that is designed and operated for the sole purpose of collecting rainfall runoff (*e.g.,* stormwater sewer system) and is segregated from all other individual drain systems.

Internal floating roof means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it inside a tank that has a fixed roof).

Maximum HAP vapor pressure means the sum of the individual HAP equilibrium partial pressure exerted by remediation material at the temperature equal to either: the monthly average temperature as reported by the National Weather Service when the remediation material is stored or treated at ambient temperature; or the highest calendar-month average temperature of the remediation material when the remediation material is stored at temperatures above the ambient temperature or when the remediation material is stored or treated at temperatures below the ambient temperature. For the purpose of this subpart, maximum HAP vapor pressure is determined using the procedures specified in §63.7944.

No detectable organic emissions means no escape of organics to the atmosphere as determined using the procedure specified in §63.694(k).

Oil-water separator means a separator as defined for this subpart that is used to separate oil from water.

Operating parameter value means a minimum or maximum value established for a control device or treatment process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emissions limitation or standard.

Organic-water separator means a separator as defined for this subpart that is used to separate organics from water.

Process heater means an enclosed combustion device that transfers heat released by burning fuel directly to process streams or to heat transfer liquids other than water.

Process vent means any open-ended pipe, stack, duct, or other opening intended to allow the passage of gases, vapors, or fumes to the atmosphere and this passage is caused by mechanical means (such as compressors, vacuum-producing systems or fans) or by process-related means (such as volatilization produced by heating). For the purposes of this subpart, a process vent is neither a safety device (as defined in this section) nor a stack, duct or other opening used to exhaust combustion products from a boiler, furnace, heater, incinerator, or other combustion device.

Radioactive mixed waste means a material that contains both hazardous waste subject to RCRA and source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954.

Remediation material means a material that contains one or more of the HAP listed in Table 1 of this subpart, and this material is one of the following:

(1) A material found in naturally occurring media such as soil, groundwater, surface water, sediments, or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes and is made up primarily of media. This material does not include debris as defined in 40 CFR 268.2.

(2) A material found in intact or substantially intact containers, tanks, storage piles, or other storage units that requires clean up because this material poses a reasonable potential threat to contaminating media. Examples of these materials include, but are not limited to, solvents, oils, paints, and other volatile or

semi-volatile organic liquids found in buried drums, cans, or other containers; gasoline, fuel oil, or other fuels in leaking underground storage tanks; and solid materials containing volatile or semi-volatile organics in unused or abandoned piles. Remediation material is not a waste or residue generated by routine equipment maintenance activities performed at a facility such as, but not limited to, tank bottoms and sludges removed during tank cleanouts; sludges and sediments removed from active wastewater treatment tanks, surface impoundments, or lagoons; spent catalyst removed from process equipment; residues removed from air pollution control equipment; and debris removed during heat exchanger and pipeline cleanouts.

Remediation material management unit means a tank, container, surface impoundment, oil-water separator, organic-water separator, or transfer system used to remove, destroy, degrade, transform, immobilize, or otherwise manage remediation material.

Remediation material service means any time when a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, or instrumentation system contains or contacts remediation material.

Responsible official means responsible official as defined in 40 CFR 70.2.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions to prevent physical damage or permanent deformation to equipment by venting gases or vapors during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this Subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

Separator means a remediation material management unit, generally a tank, used to separate oil or organics from water. A separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to any additional treatment units such as an air flotation unit clarifier or biological treatment unit. Examples of a separator include, but are not limited to, an API separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

Site remediation means one or more activities or processes used to remove, destroy, degrade, transform, immobilize, or otherwise manage remediation material. The monitoring or measuring of contamination levels in environmental media using wells or by sampling is not considered to be a site remediation.

Sludge means sludge as defined in §260.10 of this chapter.

Soil means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles (sizes as classified by the U.S. Soil Conservation Service), or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil.

Stabilization process means any physical or chemical process used to either reduce the mobility of contaminants in media or eliminate free liquids as determined by Test Method 9095—Paint Filter Liquids Test in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No.

SW–846, Third Edition, September 1986, as amended by Update I, November 15, 1992. (As an alternative, you may use any more recent, updated version of Method 9095 approved by the EPA). A stabilization process includes mixing remediation material with binders or other materials, and curing the resulting remediation material and binder mixture. Other synonymous terms used to refer to this process are fixation or solidification. A stabilization process does not include the adding of absorbent materials to the surface of remediation material, without mixing, agitation, or subsequent curing, to absorb free liquid.

Surface impoundment means a unit that is a natural topographical depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquids. Examples of surface impoundments include holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provide structural support and is designed to hold an accumulation of liquids or other materials.

Temperature monitoring device means a piece of equipment used to monitor temperature and having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius (°C) or ±1.2 degrees °C, whichever value is greater.

Transfer system means a stationary system for which the predominant function is to convey liquids or solid materials from one point to another point within a waste management operation or recovery operation. For the purpose of this subpart, the conveyance of material using a container (as defined for this subpart) or a self-propelled vehicle (*e.g.* , a front-end loader) is not a transfer system. Examples of a transfer system include but are not limited to a pipeline, an individual drain system, a gravity-operated conveyor (such as a chute), and a mechanically-powered conveyor (such as a belt or screw conveyor).

Treatment process means a process in which remediation material is physically, chemically, thermally, or biologically treated to destroy, degrade, or remove hazardous air pollutants contained in the material. A treatment process can be composed of a single unit (*e.g.,* a steam stripper) or a series of units (*e.g.,* a wastewater treatment system). A treatment process can be used to treat one or more remediation material streams at the same time.

Volatile organic hazardous air pollutant (VOHAP) concentration means the fraction by weight of the HAP listed in Table 1 of this subpart that are contained in the remediation material as measured using Method 305, 40 CFR part 63, appendix A and expressed in terms of parts per million (ppm). As an alternative to using Method 305, 40 CFR part 63, appendix A, you may determine the HAP concentration of the remediation material using any one of the other test methods specified in §63.694(b)(2)(ii). When a test method specified in §63.694(b)(2)(ii) other than Method 305 in 40 CFR part 63, appendix A is used to determine the speciated HAP concentration of the contaminated material, the individual compound concentration may be adjusted by the corresponding f_{m305}listed in Table 1 of this subpart to determine a VOHAP concentration.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 69019, Nov. 29, 2006]

Table 1 to Subpart GGGGG of Part 63—List of Hazardous Air Pollutants

CAS No.[a]	Compound name	F_{m305}
75070	Acetaldehyde	1.000
75058	Acetonitrile	0.989
98862	Acetophenone	0.314
98862	Acetophenone	0.314
107028	Acrolein	1.000
107131	Acrylonitrile	0.999
107051	Allyl chloride	1.000
71432	Benzene (includes benzene in gasoline)	1.000
98077	Benzotrichloride (isomers and mixture)	0.958
100447	Benzyl chloride	1.000
92524	Biphenyl	0.864
542881	Bis(chloromethyl)ether[b]	0.999
75252	Bromoform	0.998
106990	1,3-Butadiene	1.000
75150	Carbon disulfide	1.000
56235	Carbon Tetrachloride	1.000
43581	Carbonyl sulfide	1.000
133904	Chloramben	0.633
108907	Chlorobenzene	1.000
67663	Chloroform	1.000
107302	Chloromethyl methyl ether[b]	1.000
126998	Chloroprene	1.000
98828	Cumene	1.000
94757	2,4-D, salts and esters	0.167
334883	Diazomethane[c]	0.999
132649	Dibenzofurans	0.967
96128	B1,2-Dibromo-3-chloropropane	1.000
106467	1,4-Dichlorobenzene(p)	1.000
107062	Dichloroethane (Ethylene dichloride)	1.000
111444	Dichloroethyl ether (Bis(2-chloroethylether)	0.757

542756	1,3-Dichloropropene	1.000
64675	Diethyl sulfate	0.0025
79447	Dimethyl carbamoyl chloride[c]	0.150
77781	Dimethyl sulfate	0.086
121697	N,N-Dimethylaniline	0.0008
51285	2,4-Dinitrophenol	0.0077
121142	2,4-Dinitrotoluene	0.0848
123911	1,4-Dioxane (1,4-Diethyleneoxide)	0.869
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	0.939
106887	1,2-Epoxybutane	1.000
140885	Ethyl acrylate	1.000
100414	Ethyl benzene	1.000
75003	Ethyl chloride (Chloroethane)	1.000
106934	Ethylene dibromide (Dibromoethane)	0.999
107062	Ethylene dichloride (1,2-Dichloroethane)	1.000
151564	Ethylene imine (Aziridine)	0.867
75218	Ethylene oxide	1.000
75343	Ethylidene dichloride (1,1-Dichloroethane) Glycol ethers[d] that have a Henry's Law Constant value equal to or greater than 0.01 Y/X(1.8×10^{-6} atm/gm-mole/m^3) at 25 °C	1.000 [e]
118741	Hexachlorobenzene	0.97
87683	Hexachlorobutadiene	0.88
67721	Hexachloroethane	0.499
110543	Hexane	1.000
78591	Isophorone	0.506
58899	Lindane (all isomers)	1.000
67561	Methanol	0.855
74839	Methyl bromide (Bromomethane)	1.000
74873	Methyl chloride (Choromethane)	1.000
71556	Methyl chloroform (1,1,1-Trichloroethane)	1.000
74884	Methyl iodide (Iodomethane)	1.000
108101	Methyl isobutyl ketone (Hexone)	0.979
624839	Methyl isocyanate	1.000
80626	Methyl methacrylate	0.999

1634044	Methyl tert butyl ether	1.000
75092	Methylene chloride (Dichloromethane)	1.000
91203	Naphthalene	0.994
98953	Nitrobenzene	0.394
79469	2-Nitropropane	0.989
82688	Pentachloronitrobenzene (Quintobenzene)	0.839
87865	Pentachlorophenol	0.0898
75445	Phosgene[c]	1.000
123386	Propionaldehyde	0.999
78875	Propylene dichloride (1,2-Dichloropropane)	1.000
75569	Propylene oxide	1.000
75558	1,2-Propylenimine (2-Methyl aziridine)	0.945
100425	Styrene	1.000
96093	Styrene oxide	0.830
79345	1,1,2,2-Tetrachloroethane	0.999
127184	Tetrachloroethylene (Perchloroethylene)	1.000
108883	Toluene	1.000
95534	o-Toluidine	0.152
120821	1,2,4-Trichlorobenzene	1.000
71556	1,1,1-Trichloroethane (Methyl chlorform)	1.000
79005	1,1,2-Trichloroethane (Vinyltrichloride)	1.000
79016	Trichloroethylene	1.000
95954	2,4,5-Trichlorophenol	0.0108
88062	2,4,6-Trichlorophenol	0.0132
121448	Triethylamine	1.000
540841	2,2,4-Trimethylpentane	1.000
108054	Vinyl acetate	1.000
593602	Vinyl bromide	1.000
75014	Vinyl chloride	1.000
75354	Vinylidene chloride (1,1-Dichloroethylene)	1.000
1330207	Xylenes (isomers and mixture)	1.000
95476	o-Xylenes	1.000
108383	m-Xylenes	1.000

106423	p-Xylenes	1.000

Notes:

F_{m305}Fraction measure factor in Method 305, 40 CFR 305 part 63, appendix A.

[a]CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.

[b]Denotes a HAP that hydrolyzes quickly in water, but the hydrolysis products are also HAP chemicals.

[c]Denotes a HAP that may react violently with water.

[d]Denotes a HAP that hydrolyzes slowly in water.

[e]The F_{m305}factors for some of the more common glycol 305 ethers can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

[71 FR 69020, Nov. 29, 2006]

Table 2 to Subpart GGGGG of Part 63—Control Levels as Required by §63.7895(a) for Tanks Managing Remediation Material With a Maximum HAP Vapor Pressure Less Than 76.6kPa

If your tank design capacity is . . .	And the maximum HAP vapor pressure of the remediation material placed in your tank is . . .	Then your tank must use . . .
1. Less than 38 m^3	Less than 76.6 kPa	Tank Level 1 controls under §63.7895(b).
2. At least 38 m^3but less than 151 m^3	Less than 13.1 kPa	Tank Level 1 controls under §63.7895(b).
3. 151 m^3or greater	Less than 0.7 kPa	Tank Level 1 controls under §63.7895(b).
4. at least 38 m^3but less than 151 m^3	13.1 kPa or greater	Tank Level 2 controls under §63.7895(c).
5. 151 m^3or greater	0.7 kPa or greater	Tank Level 2 controls under §63.7895(c)

Table 3 to Subpart GGGGG of Part 63—Applicability of General Provisions to Subpart GGGGG

As stated in §63.7940, you must comply with the applicable General Provisions requirements according to the following table:

Citation	Subject	Brief description	Applies to subpart GGGGG
§63.1	Applicability	Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications	Yes.
§63.2	Definitions	Definitions for part 63 standards	Yes.

§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities	Prohibited Activities; Compliance date; Circumvention, Severability	Yes.
§63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes.
§63.6(a)	Applicability	General Provisions (GP) apply unless compliance extension GP apply to area sources that become major	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date. For 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes.
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years)	Yes.
§63.6(d)	[Reserved]		
§63.6(e)(1)–(2)	Operation & Maintenance	Operate to minimize emissions at all times. Correct malfunctions as soon as practicable. Operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met	Yes.
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP)	Requirement for startup, shutdown and malfunction (SSM) and SSMP. Content of SSMP	Yes with the exception of containers using either Level 1 or Level 2 controls.
§63.6(f)(1)	Compliance Except During	You must comply with emissions standards	Yes.

	SSM	at all times except during SSM	
§63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)	Opacity/Visible Emissions (VE) Standards	Requirements for opacity and visible emissions limits	No. No opacity standards.
§63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with final rule	Yes.
§63.7(a)(1)–(2)	Performance Test Dates	Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations. Must conduct 180 days after first subject to final rule	Yes.
§63.7(a)(3)	CAA Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Rescheduling	If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date	Yes.
§63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: Test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions. Cannot conduct performance tests during SSM. Not a violation to exceed standard during SSM	Yes.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to rule and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least one hour each. Compliance is based on arithmetic mean of three runs. Conditions when data from an additional test run can be used	Yes.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test	Yes.

		method	
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report. Must submit performance test data 60 days after end of test with the Notification of Compliance Status. Keep data for 5 years	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of part 60 apply	Yes.
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring with Flares	Unless your rule says otherwise, the requirements for flares in 63.11 apply	Yes.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems. Must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise. If more than one monitoring system on an emissions point, must report all monitoring system results, unless one monitoring system is a backup	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	Yes.
§63.8(c)(1)(i)	Routine and Predictable SSM	Keep parts for routine repairs available; reporting requirements for SSM when action is described in SSM plan	Yes.
§63.8(c)(1)(ii)	SSM not in SSMP	Reporting requirements for SSM when action is not described in SSM plan	Yes.
§63.8(c)(1)(iii)	Compliance with Operation and Maintenance (O&M) Requirements	How Administrator determines if source complying with operation and maintenance requirements. Review of source O&M procedures, records, Manufacturer's instructions, recommendations, and inspection of monitoring system	Yes.
§63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emissions and parameter measurements. Must verify operational status before or at performance test	Yes.
§63.8(c)(4)	Continuous Monitoring System	CMS must be operating except during	No.

	(CMS) Requirements	breakdown, out-of-control, repair, maintenance, and high-level calibration drifts	
§63.8(c)(4)(i)–(ii)	Continuous Monitoring System (CMS) Requirements	COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period. CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes. However, COMS are not applicable. Requirements for CPMS are listed in §§63.7900 and 63.7913.
§63.8(c)(5)	COMS Minimum Procedures	COMS minimum procedures	No.
§63.8(c)(6)	CMS Requirements	Zero and High level calibration check requirements	Yes. However requirements for CPMS are addressed in §63.7927.
§63.8(c)(7)–(8)	CMS Requirements	Out-of-control periods, including reporting	Yes.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc. Must keep quality control plan on record for 5 years. Keep old versions for 5 years after revisions	Yes.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	No.
§63.8(g)(1)–(4)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points. CEMS 1-hour averages computed over at least four equally spaced data points	Yes. However, COMS are not applicable. Requirements for CPMS are addressed in §§63.7900 and 63.7913.
§63.8(g)(5)	Data Reduction	Data that cannot be used in computing averages for CEMS and COMS	No.
§63.9(a)	Notification Requirements	Applicability and State Delegation	Yes.
§63.9(b)(1)–(5)	Initial Notifications.	Submit notification 120 days after effective date. Notification of intent to construct/reconstruct; Notification of commencement of construct/reconstruct; Notification of startup. Contents of each	Yes.
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed BACT/LAER	Yes.

§63.9(d)	Notification of Special Compliance Requirements for New Source	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation. Notification using COMS data. Notification that exceeded criterion for relative accuracy	Yes. However, there are no opacity standards.
§63.9(h)(1)–(6)	Notification of Compliance Status	Contents. Due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after. When to submit to Federal vs. State authority	Yes.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension. When to submit to Federal vs. State authority. Procedures for owners of more than 1 source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General Requirements. Keep all records readily available. Keep for 5 years	Yes.
§63.10(b)(2)(i)–(iv)	Records related to SSM	Occurrence of each of operation (process equipment). Occurrence of each malfunction of air pollution equipment. Maintenance on air pollution control equipment. Actions during startup, shutdown, and malfunction	Yes.
§63.10(b)(2)(vi) and (x–xi)	CMS Records	Malfunctions, inoperative, out-of-control. Calibration checks. Adjustments, maintenance	Yes.
§63.10(b)(2)(vii)–(ix)	Records	Measurements to demonstrate compliance with emissions limitations. Performance test, performance evaluation, and visible emissions observation results. Measurements to determine conditions of performance tests and performance evaluations	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	No.
§63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status	Yes.

§63.10(b)(3)	Records	Applicability Determinations	Yes.
§63.10(c)	Records	Additional Records for CMS	No.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	No.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Contents and submission	Yes.
§63.10(e)(1)–(2)	Additional CMS Reports	Must report results for each CEM on a unit Written copy of performance evaluation Three copies of COMS performance evaluation	Yes. However, COMS are not applicable.
§63.10(e)(3)	Reports	Excess Emissions Reports	No.
§63.10(e)(3)(i–iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations)	No.
§63.10(e)(3)(iv–v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations). Provision to request semiannual reporting after compliance for one year. Submit report by 30th day following end of quarter or calendar half. If there has not been an exceedance or excess emissions (now defined as deviations), report contents is a statement that there have been no deviations	No.
§63.10(e)(3)(iv–v)	Excess Emissions Reports	Must submit report containing all of the information in §§63.10(c)(5–13) and 63.8(c)(7–8)	No.
§63.10(e)(3)(vi–viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMSs (now called deviations). Requires all of the information in §§63.10(c)(5–13) and 63.8(c)(7–8)	No.
§63.10(e)(4)	Reporting COMS data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11	Flares	Requirements for flares	Yes.

§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes

[68 FR 58190, Oct. 8, 2003, as amended at 71 FR 20468, Apr. 20, 2006]

SECTION E.22 40 CFR 60, Subpart Db—New Source Performance Standards - Industrial-Commercial-Institutional Steam Generating Units

E.22.1 NSPS Subpart Db Requirements [40 CFR Part 60, Subpart Db] [326 IAC 12]

Pursuant to 40 CFR 60.40b, the Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart Db for New Boiler 1 and New Boiler 2 as specified below:

Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(b)

(c) Affected facilities that also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the PM and NOXstandards under this subpart and the SO2standards under subpart J (§60.104).

(d)

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing total reduced sulfur (TRS) as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).
(2) Section 60.44b(g).
(3) Section 60.49b(a)(4).

(h)

(i)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).

(k)

§ 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the

potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide (CO2) levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants mean industrial plants that are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, coke oven gas, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

Cogeneration , also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.
Coke oven gas means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

Combined cycle system means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a steam generating unit.

Conventional technology means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO2control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO2control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State

Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

Gaseous fuel means any fuel that is present as a gas at ISO conditions.

Gross output means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output (i.e., steam delivered to an industrial process).

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hr) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

Heat transfer medium means any material that is used to transfer heat from one point to another point.

High heat release rate means a heat release rate greater than 730,000 J/sec-m3 (70,000 Btu/hr-ft3).
ISO Conditions means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m3 (70,000 Btu/hr-ft3) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

Maximum heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2)

liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical SO2emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Pulp and paper mills means industrial plants that are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units. Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste and produces steam or heats water or any other heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Very low sulfur oil means for units constructed, reconstructed, or modified on or before February 28, 2005, an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO2emission control, has a SO2emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005, very low sulfur oil means an oil that contains no more than 0.3 weight percent sulfur or that, when combusted without SO2emission control, has a SO2emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a SO2control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently

converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO2.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

§ 60.44b Standard for nitrogen oxides (NOX).

(a)

(b)

(c)

(d)

(e) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain NOXin excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a NOXemission limit that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as NOXemissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific NOXemission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The NOXemission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific NOXemission limit will be established at the NOXemission level

achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing NOXemissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NOXlimit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(g)

(h) For purposes of paragraph (i) of this section, the NOXstandards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j)

(k)

(l) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOX(expressed as NO2) in excess of the following limits:

(1) If the affected facility combusts coal, oil, or natural gas, or a mixture of these fuels, or with any other fuels: A limit of 86 ng/J (0.20 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = \frac{(0.10 \times H_{go}) + (0.20 \times H_r)}{(H_{go} + H_r)}$$

Where:
En= NOXemission limit, (lb/MMBtu);
Hgo= 30-day heat input from combustion of natural gas or distillate oil; and
Hr= 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The PM emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction. The NOXemission standards under §60.44b apply at all times.

(b)

(c) Compliance with the NOXemission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d)

(e) To determine compliance with the emission limits for NOXrequired under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring NOXunder §60.48(b).

(1) For the initial compliance test, NOXfrom the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NOXemission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2)

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NOXstandards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOXemission data for the preceding 30 steam generating unit operating days.

(4)

(5)

(f)

(g)

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 MMBtu/hr) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the NOXemission standards under §60.44b using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the NOXemission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods.

(i)

(j)

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a)

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a NOXstandard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring NOXand O2(or CO2) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NOXemission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The CEMS required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
(d) The 1-hour average NOXemission rates measured by the continuous NOXmonitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1)

(2) For affected facilities combusting coal, oil, or natural gas, the span value for NOXis determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NOXspan values shall be determined as follows:

Fuel	Span values for NO_X (ppm)
Natural gas	500.
Oil	500.
Coal	1,000.
Mixtures	500 (x + y) + 1,000z.

Where:
x = Fraction of total heat input derived from natural gas;
y = Fraction of total heat input derived from oil; and
z = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the NOXspan values determined according to section 2.1.2 in appendix A to part 75 of this chapter.

(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When NOXemission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g)

(h)

(i)

(j)

(k)

§ 60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility;

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i);

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired; and

(4)

(b) The owner or operator of each affected facility subject to the SO2, PM, and/or NOXemission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the NOXstandard of §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under §60.48b(g)(2) and the records to be maintained under §60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NOXemission rates (i.e. , ng/J or lbs/MMBtu heat input). Steam generating unit operating

conditions include, but are not limited to, the degree of staged combustion (i.e. , the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e. , flue gas O2level);

(2) Include the data and information that the owner or operator used to identify the relationship between NOXemission rates and these operating conditions; and
(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(j).

(d) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(e)

(f)

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the NOXstandards under §60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The average hourly NOXemission rates (expressed as NO2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NOXemission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;

(4) Identification of the steam generating unit operating days when the calculated 30-day average NOXemission rates are in excess of the NOXemissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(7) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

(1) Any affected facility subject to the opacity standards under §60.43b(e) or to the operating parameter monitoring requirements under §60.13(i)(1).

(2) Any affected facility that is subject to the NOXstandard of §60.44b, and that:

(i) Combusts natural gas, distillate oil, or residual oil with a nitrogen content of 0.3 weight percent or less; or

(ii) Has a heat input capacity of 73 MW (250 MMBtu/hr) or less and is required to monitor NOXemissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NOXemission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for NOXunder §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j)

(k)

(l)

(m)

(n)

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p)

(q)

(r)

(s)

(t)

(u)

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO2and/or NOXand/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar

quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x)

(y)

SECTION E.23 40 CFR 60, Subpart IIII— Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

E.23.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR Part 60, Subpart IIII.

E.23.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart IIII, the Permittee shall comply with the provisions of Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which are incorporated by reference as 326 IAC 12, as specified as follows:

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:

(i) Manufactured after April 1, 2006 and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must purchase diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(c)[Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Compliance Requirements

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(f) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial

performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011]

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Special Requirements

40 CFR 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4202 or §60.4203 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§ 60.4219 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any

regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.
Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which the engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Tables to Subpart IIII of Part 60

Table 1 to Subpart IIII of Part 60.—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 3 to Subpart IIII of Part 60.—Certification Requirements for Stationary Fire Pump Engines

[As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:]

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)[1]
130≤KW≤560 (175≤HP≤750)	2009

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60.—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)

[1]For model years 2011–2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2]For model years 2010–2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3]In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60.—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
KW≥130 (HP≥175)	2011

Table 8 to Subpart IIII of Part 60.—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

SECTION E.24 40 CFR 63, Subpart EEEE— National Emission Standards for Hazardous Air Pollutants - Organic Liquid Distribution (Non-gasoline)

E.24.1 General Provisions Relating to NESHAP Subpart EEEE [326 IAC 20-83-1] [40 CFR Part 63, Subpart EEEE]

Pursuant to 40 CFR 63.2330 the Permittee shall comply with the provisions of 40 CFR Part 63 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR Part 63, Subpart EEEE.

E.24.2 NESHAP Subpart EEEE Requirements [40 CFR 63, Subpart EEEE] [326 IAC 20-83-1]

Pursuant to 40 CFR 63.2330, the Permittee shall comply with the provisions of 40 CFR 63, Subpart EEEE, which are incorporated by refernce in 326 IAC 20-83-1, for the storage tank D-424 and other affected emissions units at this source, specified as follows:

What This Subpart Covers
§ 63.2330 What is the purpose of this subpart?

This subpart establishes national emission limitations, operating limits, and work practice standards for organic hazardous air pollutants (HAP) emitted from organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations, operating limits, and work practice standards.

§ 63.2334 Am I subject to this subpart?

(a) Except as provided for in paragraphs (b) and (c) of this section, you are subject to this subpart if you own or operate an OLD operation that is located at, or is part of, a major source of HAP emissions. An OLD operation may occupy an entire plant site or be collocated with other industrial (*e.g.,* manufacturing) operations at the same plant site.

(b) Organic liquid distribution operations located at research and development facilities, consistent with section 112(c)(7) of the Clean Air Act (CAA), are not subject to this subpart.

(c)

§ 63.2338 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing OLD operation affected source.

(b) Except as provided in paragraph (c) of this section, the affected source is the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major source of HAP. The affected source is composed of:

(1) All storage tanks storing organic liquids.

(2) All transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers.

(3) All equipment leak components in organic liquids service that are associated with:

(i) Storage tanks storing organic liquids;

(ii) Transfer racks loading or unloading organic liquids;

(iii) Pipelines that transfer organic liquids directly between two storage tanks that are subject to this subpart;

(iv) Pipelines that transfer organic liquids directly between a storage tank subject to this subpart and a transfer rack subject to this subpart; and

(v) Pipelines that transfer organic liquids directly between two transfer racks that are subject to this subpart.

(4) All transport vehicles while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(5) All containers while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(c) The equipment listed in paragraphs (c)(1) through (4) of this section and used in the identified operations is excluded from the affected source.

(1) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components that are part of an affected source under another 40 CFR part 63 national emission standards for hazardous air pollutants (NESHAP).

(2) Non-permanent storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used in special situation distribution loading and unloading operations (such as maintenance or upset liquids management).

(3) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used to conduct maintenance activities, such as stormwater management, liquid removal from tanks for inspections and maintenance, or changeovers to a different liquid stored in a storage tank.

(d) An affected source is a new affected source if you commenced construction of the affected source after April 2, 2002, and you meet the applicability criteria in §63.2334 at the time you commenced operation.

(e) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(f) An affected source is existing if it is not new or reconstructed.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42904, July 28, 2006]

§ 63.2342 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to the schedule identified in paragraph (a)(1), (a)(2), or (a)(3) of this section, as applicable.

(1)

(2) If you commence construction of or reconstruct your affected source after February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(3) If, after startup of a new affected source, the total actual annual facility-level organic liquid loading volume at that source exceeds the criteria for control in Table 2 to this subpart, items 9 and 10, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(b)(1) If you have an existing affected source, you must comply with the emission limitations, operating limits, and work practice standards for existing affected sources no later than February 5, 2007, except as provided in paragraphs (b)(2) and (3) of this section.

(2) Floating roof storage tanks at existing affected sources must be in compliance with the work practice standards in Table 4 to this subpart, item 1, at all times after the next degassing and cleaning activity or within 10 years after February 3, 2004, whichever occurs first. If the first degassing and cleaning activity occurs during the 3 years following February 3, 2004, the compliance date is February 5, 2007.

(3)(i) If an addition or change other than reconstruction as defined in §63.2 is made to an existing affected facility that causes the total actual annual facility-level organic liquid loading volume to exceed the criteria for control in Table 2 to this subpart, items 7 and 8, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(ii) If the owner or operator believes that compliance with the transfer rack emission limits cannot be achieved immediately, as specified in paragraph (b)(3)(i) of this section, the owner or operator may submit a request for a compliance extension, as specified in paragraphs (b)(3)(ii)(A) through (I) of this section. Subject to paragraph (b)(3)(ii)(B) of this section, until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph (b)(3)(ii), the owner or operator of the transfer rack subject to the requirements of this section shall comply with all applicable requirements of this subpart. Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(A) *Submittal.* The owner or operator shall submit a request for a compliance extension to the Administrator (or a State, when the State has an approved 40 CFR part 70 permit program and the source is required to obtain a 40 CFR part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) seeking an extension allowing the source up to 1 additional year to comply with the transfer rack standard, if such additional period is necessary for the installation of controls. The owner or operator of the affected source who has requested an extension of compliance under this paragraph (b)(3)(ii)(A) and who is otherwise required to obtain a title V permit shall apply for such permit, or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph (b)(3)(ii)(A) will be incorporated into the affected source's title V permit according to the provisions of 40 CFR part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) *When to submit.* (*1*) Any request submitted under paragraph (b)(3)(ii)(A) of this section must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraph (b)(3)(i) of this section), except as provided for in paragraph (b)(3)(ii)(B)(*2*) of this section. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)(*1*) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial.

(*2*) An owner or operator may submit a compliance extension request after the date specified in paragraph (b)(3)(ii)(B)(*1*) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the

information required in paragraph (b)(3)(ii)(C) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)(*2*) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(C) *Information required.* The request for a compliance extension under paragraph (b)(3)(ii)(A) of this section shall include the following information:

(*1*) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

(*2*) The name, address, and telephone number of a contact person for further information;

(*3*) An identification of the organic liquid distribution operation and of the specific equipment for which additional compliance time is required;

(*4*) A description of the controls to be installed to comply with the standard;

(*5*) Justification for the length of time being requested; and

(*6*) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*i*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated;

(*ii*) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(*iii*) The date by which final compliance is to be achieved.

(D) *Approval of request for extension of compliance.* Based on the information provided in any request made under paragraph (b)(3)(ii)(C) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with the transfer rack emission standard, as specified in paragraph (b)(3)(ii) of this section. The extension will be in writing and will—

(*1*) Identify each affected source covered by the extension;

(*2*) Specify the termination date of the extension;

(*3*) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(*4*) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests);

(*5*) Specify the contents of the progress reports to be submitted and the dates by which such reports are to be submitted, if required pursuant to paragraph (b)(3)(ii)(E) of this section.

(*6*) Under paragraph (b)(3)(ii) of this section, specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period.

(E) *Progress reports.* The owner or operator of an existing source that has been granted an extension of compliance under paragraph (b)(3)(ii)(D) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached.

(F) *Notification of approval or intention to deny.* (*1*) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (b)(3)(ii) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application; that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. Failure by the Administrator to act within 30 calendar days to approve or disapprove a request submitted under paragraph (b)(3)(ii) of this section does not constitute automatic approval of the request.

(*2*) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(*3*) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with:

(*i*) Notice of the information and findings on which the intended denial is based; and

(*ii*) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(*4*) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(G) *Termination of extension of compliance.* The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (b)(3)(ii)(D)(*3*) or paragraph (b)(3)(ii)(D)(*4*) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(*1*) Notice of the reason for termination; and

(*2*) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(*3*) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30

calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(H) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the CAA.

(I) *Limitation on use of compliance extension.* The owner or operator may request an extension of compliance under the provisions specified in paragraph (b)(3)(ii) of this section only once for each facility.

(c)

(d) You must meet the notification requirements in §§63.2343 and 63.2382(a), as applicable, according to the schedules in §63.2382(a) and (b)(1) through (3) and in subpart A of this part. Some of these notifications must be submitted before the compliance dates for the emission limitations, operating limits, and work practice standards in this subpart.

Testing and Initial Compliance Requirements
§ 63.2354 What performance tests, design evaluations, and performance evaluations must I conduct?

(a)(1) For each performance test that you conduct, you must use the procedures specified in subpart SS of this part and the provisions specified in paragraph (b) of this section.

(2) For each design evaluation you conduct, you must use the procedures specified in subpart SS of this part.

(3) For each performance evaluation of a continuous emission monitoring system (CEMS) you conduct, you must follow the requirements in §63.8(e).

(b)(1) For nonflare control devices, you must conduct each performance test according to the requirements in §63.7(e)(1), and either §63.988(b), §63.990(b), or §63.995(b), using the procedures specified in §63.997(e).

(2) You must conduct three separate test runs for each performance test on a nonflare control device as specified in §§63.7(e)(3) and 63.997(e)(1)(v). Each test run must last at least 1 hour, except as provided in §63.997(e)(1)(v)(A) and (B).

(3)(i) In addition to EPA Method 25 or 25A of 40 CFR part 60, appendix A, to determine compliance with the organic HAP or TOC emission limit, you may use EPA Method 18 of 40 CFR part 60, appendix A, as specified in paragraph (b)(3)(i) of this section. As an alternative to EPA Method 18, you may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), under the conditions specified in paragraph (b)(3)(ii) of this section.

(A) If you use EPA Method 18 to measure compliance with the percentage efficiency limit, you must first determine which organic HAP are present in the inlet gas stream (i.e., uncontrolled emissions) using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, you must analyze samples collected as specified in EPA Method 18, simultaneously at the inlet and outlet of the control device. Quantify the emissions for the same organic HAP identified as present in the inlet gas stream for both the inlet and outlet gas streams of the control device.

(B) If you use EPA Method 18 of 40 CFR part 60, appendix A, to measure compliance with the emission concentration limit, you must first determine which organic HAP are present in the inlet gas stream using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, analyze samples collected as specified in EPA Method 18 at the outlet of the control device. Quantify the control device outlet emission concentration for the same organic HAP identified as present in the inlet or uncontrolled gas stream.

(ii) You may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), as an alternative to EPA Method 18 if the target concentration is between 150 parts per billion by volume and 100 ppmv and either of the conditions specified in paragraph (b)(2)(ii)(A) or (B) of this section exists. For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004) and not amenable to detection by mass spectrometry, you may not use ASTM D6420–99 (Reapproved 2004).

(A) The target compounds are those listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14),; or

(B) For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), but potentially detected by mass spectrometry, the additional system continuing calibration check after each run, as detailed in ASTM D6420–99 (Reapproved 2004), Section 10.5.3, must be followed, met, documented, and submitted with the data report, even if there is no moisture condenser used or the compound is not considered water-soluble.

(4) If a principal component of the uncontrolled or inlet gas stream to the control device is formaldehyde, you may use EPA Method 316 of appendix A of this part instead of EPA Method 18 of 40 CFR part 60, appendix A, for measuring the formaldehyde. If formaldehyde is the predominant organic HAP in the inlet gas stream, you may use EPA Method 316 alone to measure formaldehyde either at the inlet and outlet of the control device using the formaldehyde control efficiency as a surrogate for total organic HAP or TOC efficiency, or at the outlet of a combustion device for determining compliance with the emission concentration limit.

(5) You may not conduct performance tests during periods of SSM, as specified in §63.7(e)(1).

(c) To determine the HAP content of the organic liquid, you may use EPA Method 311 of 40 CFR part 63, appendix A, or other method approved by the Administrator. In addition, you may use other means, such as voluntary consensus standards, material safety data sheets (MSDS), or certified product data sheets, to determine the HAP content of the organic liquid. If the method you select to determine the HAP content provides HAP content ranges, you must use the upper end of each HAP content range in determining the total HAP content of the organic liquid. The EPA may require you to test the HAP content of an organic liquid using EPA Method 311 or other method approved by the Administrator. If the results of the EPA Method 311 (or any other approved method) are different from the HAP content determined by another means, the EPA Method 311 (or approved method) results will govern.

Notifications, Reports, and Records
§ 63.2382 What notifications must I submit and when and what information should be submitted?

(a) You must submit each notification in subpart SS of this part, Table 12 to this subpart, and paragraphs (b) through (d) of this section that applies to you. You must submit these notifications according to the schedule in Table 12 to this subpart and as specified in paragraphs (b) through (d) of this section.

(b)(1) *Initial Notification.* If you startup your affected source before February 3, 2004, you must submit the Initial Notification no later than 120 calendar days after February 3, 2004.

(2) If you startup your new or reconstructed affected source on or after February 3, 2004, you must submit the Initial Notification no later than 120 days after initial startup.

(c) If you are required to conduct a performance test, you must submit the Notification of Intent to conduct the test at least 60 calendar days before it is initially scheduled to begin as required in §63.7(b)(1).

(d)(1) *Notification of Compliance Status.* If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Table 5, 6, or 7 to this subpart, you must submit a Notification of Compliance Status.

(2) The Notification of Compliance Status must include the information required in §63.999(b) and in paragraphs (d)(2)(i) through (viii) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify organic HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to Tables 6 and 7 to this subpart. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) Descriptions of worst-case operating and/or testing conditions for the control device(s).

(v) Identification of emission sources subject to overlapping requirements described in §63.2396 and the authority under which you will comply.

(vi) The applicable information specified in §63.1039(a)(1) through (3) for all pumps and valves subject to the work practice standards for equipment leak components in Table 4 to this subpart, item 4.

(vii) If you are complying with the vapor balancing work practice standard for transfer racks according to Table 4 to this subpart, item 3.a, include a statement to that effect and a statement that the pressure vent settings on the affected storage tanks are greater than or equal to 2.5 psig.

(viii) The information specified in §63.2386(c)(10)(i), unless the information has already been submitted with the first Compliance report. If the information specified in §63.2386(c)(10)(i) has already been submitted with the first Compliance report, the information specified in §63.2386(d)(3) and (4), as applicable, shall be submitted instead.

What reports must I submit and when and what information is to be submitted in each?

(a) You must submit each report in subpart SS of this part, Table 11 to this subpart, Table 12 to this subpart, and in paragraphs (c) through (e) of this section that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report according to Table 11 to this subpart and by the dates shown in paragraphs

(b)(1) through (3) of this section, by the dates shown in subpart SS of this part, and by the dates shown in Table 12 to this subpart, whichever are applicable.

(1)(i) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.2342 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(ii) The first Compliance report must be postmarked no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(2)(i) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(ii) Each subsequent Compliance report must be postmarked no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(3) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) and (2) of this section.

(c) *First Compliance report.* The first Compliance report must contain the information specified in paragraphs (c)(1) through (10) of this section.

(1) Company name and address.

(2) Statement by a responsible official, including the official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(3) Date of report and beginning and ending dates of the reporting period.

(4) Any changes to the information listed in §63.2382(d)(2) that have occurred since the submittal of the Notification of Compliance Status.

(5) If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the Compliance report must include the information described in §63.10(d)(5)(i).

(6) If there are no deviations from any emission limitation or operating limit that applies to you and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations, operating limits, or work practice standards during the reporting period.

(7) If there were no periods during which the CMS was out of control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out of control during the reporting period.

(8) For closed vent systems and control devices used to control emissions, the information specified in paragraphs (c)(8)(i) and (ii) of this section for those planned routine maintenance activities that would require the control device to not meet the applicable emission limit.

(i) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description must include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(ii) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description must include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the applicable emission limit due to planned routine maintenance.

(9) A listing of all transport vehicles into which organic liquids were loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, during the previous 6 months for which vapor tightness documentation as required in §63.2390(c) was not on file at the facility.

(10)(i) A listing of all transfer racks (except those racks at which only unloading of organic liquids occurs) and of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that are part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart.

(ii) If the information specified in paragraph (c)(10)(i) of this section has already been submitted with the Notification of Compliance Status, the information specified in paragraphs (d)(3) and (4) of this section, as applicable, shall be submitted instead.

(d) *Subsequent Compliance reports* . Subsequent Compliance reports must contain the information in paragraphs (c)(1) through (9) of this section and, where applicable, the information in paragraphs (d)(1) through (4) of this section.

(1) For each deviation from an emission limitation occurring at an affected source where you are using a CMS to comply with an emission limitation in this subpart, you must include in the Compliance report the applicable information in paragraphs (d)(1)(i) through (xii) of this section. This includes periods of SSM.

(i) The date and time that each malfunction started and stopped.

(ii) The dates and times that each CMS was inoperative, except for zero (low-level) and high-level checks.

(iii) For each CMS that was out of control, the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of SSM, or during another period.

(v) A summary of the total duration of the deviations during the reporting period, and the total duration as a percentage of the total emission source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percentage of the total emission source operating time during that reporting period.

(viii) An identification of each organic HAP that was potentially emitted during each deviation based on the known organic HAP contained in the liquid(s).

(ix) A brief description of the emission source(s) at which the CMS deviation(s) occurred.

(x) A brief description of each CMS that was out of control during the period.

(xi) The date of the latest certification or audit for each CMS.

(xii) A brief description of any changes in CMS, processes, or controls since the last reporting period.

(2) Include in the Compliance report the information in paragraphs (d)(2)(i) through (iii) of this section, as applicable.

(i) For each storage tank and transfer rack subject to control requirements, include periods of planned routine maintenance during which the control device did not comply with the applicable emission limits in table 2 to this subpart.

(ii) For each storage tank controlled with a floating roof, include a copy of the inspection record (required in §63.1065(b)) when inspection failures occur.

(iii) If you elect to use an extension for a floating roof inspection in accordance with §63.1063(c)(2)(iv)(B) or (e)(2), include the documentation required by those paragraphs.

(3)(i) A listing of any storage tank that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 1 through 6, since the filing of the last Compliance report.

(ii) A listing of any transfer rack that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 7 through 10, since the filing of the last Compliance report.

(4)(i) A listing of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(ii) A listing of all transfer racks (except those racks at which only the unloading of organic liquids occurs) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(e) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to table 11 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission limitation in this subpart, we will consider submission of the Compliance report as satisfying any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report will not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the applicable title V permitting authority.

§ 63.2390 What records must I keep?

(a) For each emission source identified in §63.2338 that does not require control under this subpart, you must keep all records identified in §63.2343.

(b) For each emission source identified in §63.2338 that does require control under this subpart:

(1) You must keep all records identified in subpart SS of this part and in table 12 to this subpart that are applicable, including records related to notifications and reports, SSM, performance tests, CMS, and performance evaluation plans; and

(2) You must keep the records required to show continuous compliance, as required in subpart SS of this part and in tables 8 through 10 to this subpart, with each emission limitation, operating limit, and work practice standard that applies to you.

(c) For each transport vehicle into which organic liquids are loaded at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, you must keep the applicable records in paragraphs (c)(1) and (2) of this section or alternatively the verification records in paragraph (c)(3) of this section.

(1) For transport vehicles equipped with vapor collection equipment, the documentation described in 40 CFR 60.505(b), except that the test title is: Transport Vehicle Pressure Test-EPA Reference Method 27.

(2) For transport vehicles without vapor collection equipment, current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(3) In lieu of keeping the records specified in paragraph (c)(1) or (2) of this section, as applicable, the owner or operator shall record that the verification of U.S. DOT tank certification or Method 27 of appendix A to 40 CFR part 60 testing, required in table 5 to this subpart, item 2, has been performed. Various methods for the record of verification can be used, such as: A check-off on a log sheet, a list of U.S. DOT serial numbers or Method 27 data, or a position description for gate security showing that the security guard will not allow any trucks on site that do not have the appropriate documentation.

(d) You must keep records of the total actual annual facility-level organic liquid loading volume as defined in §63.2406 through transfer racks to document the applicability, or lack thereof, of the emission limitations in table 2 to this subpart, items 7 through 10.

(e) An owner or operator who elects to comply with §63.2346(a)(4) shall keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A record of the U.S. DOT certification required by §63.2346(a)(4)(ii).

(2) A record of the pressure relief vent setting specified in §63.2348(a)(4)(v).

(3) If complying with §63.2348(a)(4)(vi)(B), keep the records specified in paragraphs (e)(3)(i) and (ii) of this section.

(i) A record of the equipment to be used and the procedures to be followed when reloading the cargo tank or tank car and displacing vapors to the storage tank from which the liquid originates.

(ii) A record of each time the vapor balancing system is used to comply with §63.2348(a)(4)(vi)(B).

§ 63.2394 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form at a separate location.

(b) As specified in §63.10(b)(1), you must keep your files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You may keep the records off site for the remaining 3 years.

§ 63.2398 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.2402 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (U.S. EPA) or a delegated authority such as your State, local, or eligible tribal agency. If the EPA Administrator has delegated authority to your State, local, or eligible tribal agency, then that agency, as well as the EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office (see list in §63.13) to find out if this subpart is delegated to your State, local, or eligible tribal agency.

(b) In delegating implementation and enforcement authority for this subpart to a State, local, or eligible tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not delegated to the State, local, or eligible tribal agency.

(1) Approval of alternatives to the nonopacity emission limitations, operating limits, and work practice standards in §63.2346(a) through (c) under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§ 63.2406 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in §63.2, 40 CFR part 63, subparts H, PP, SS, TT, UU, and WW, and in this section. If the same term is defined in another subpart and in this section, it will have the meaning given in this section for purposes of this subpart. Notwithstanding the introductory language in §63.921, the terms “container” and “safety device” shall have the meaning found in this subpart and not in §63.921.

Actual annual average temperature, for organic liquids, means the temperature determined using the following methods:

(1) For heated or cooled storage tanks, use the calculated annual average temperature of the stored organic liquid as determined from a design analysis of the storage tank.

(2) For ambient temperature storage tanks:

(i) Use the annual average of the local (nearest) normal daily mean temperatures reported by the National Climatic Data Center; or

(ii) Use any other method that the EPA approves.

Annual average true vapor pressure means the equilibrium partial pressure exerted by the total table 1 organic HAP in the stored or transferred organic liquid. For the purpose of determining if a liquid meets the definition of an organic liquid, the vapor pressure is determined using standard conditions of 77 degrees F and 29.92 inches of mercury. For the purpose of determining whether an organic liquid meets the applicability criteria in table 2, items 1 through 6, to this subpart, use the actual annual average temperature as defined in this subpart. The vapor pressure value in either of these cases is determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporative Loss from External Floating-Roof Tanks (incorporated by reference, see §63.14);

(2) Using standard reference texts;

(3) By the American Society for Testing and Materials Method D2879–83, 96 (incorporated by reference, see §63.14); or

(4) Using any other method that the EPA approves.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further processing downstream.

Cargo tank means a liquid-carrying tank permanently attached and forming an integral part of a motor vehicle or truck trailer. This term also refers to the entire cargo tank motor vehicle or trailer. For the purpose of this subpart, vacuum trucks used exclusively for maintenance or spill response are not considered cargo tanks.

Closed vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapors from an emission point to a control device. This system does not include the vapor collection system that is part of some transport vehicles or the loading arm or hose that is used for vapor return. For transfer racks, the closed vent system begins at, and includes, the first block valve on the downstream side of the loading arm or hose used to convey displaced vapors.

Combustion device means an individual unit of equipment, such as a flare, oxidizer, catalytic oxidizer, process heater, or boiler, used for the combustion of organic emissions.

Container means a portable unit in which a material can be stored, transported, treated, disposed of, or otherwise handled. Examples of containers include, but are not limited to, drums and portable cargo containers known as “portable tanks” or “totes.”

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart. Such equipment or devices include, but are not limited to, absorbers, adsorbers, condensers, and combustion devices. Primary condensers, steam strippers, and fuel gas systems are not considered control devices.

Crude oil means any of the naturally occurring liquids commonly referred to as crude oil, regardless of specific physical properties. Only those crude oils downstream of the first point of custody transfer after the production field are considered crude oils in this subpart.

Custody transfer means the transfer of hydrocarbon liquids after processing and/or treatment in the producing operations, or from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

Design evaluation means a procedure for evaluating control devices that complies with the requirements in §63.985(b)(1)(i).

Deviation means any instance in which an affected source subject to this subpart, or portion thereof, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during SSM.

Emission limitation means an emission limit, opacity limit, operating limit, or visible emission limit.

Equipment leak component means each pump, valve, and sampling connection system used in organic liquids service at an OLD operation. Valve types include control, globe, gate, plug, and ball. Relief and check valves are excluded.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (4.0 pounds per square inch absolute (psia)) or greater which is used as a fuel for internal combustion engines. Aviation gasoline is included in this definition.

High throughput transfer rack means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) a total of 11.8 million liters per year or greater of organic liquids.

In organic liquids service means that an equipment leak component contains or contacts organic liquids having 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart.

Low throughput transfer rack means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) less than 11.8 million liters per year of organic liquids.

On-site or *on site* means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source to which the records pertain, storage in central files elsewhere at the major source, or electronically available at the site.

Organic liquid means:

(1) Any non-crude oil liquid or liquid mixture that contains 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart, as determined using the procedures specified in §63.2354(c).

(2) Any crude oils downstream of the first point of custody transfer.

(3) Organic liquids for purposes of this subpart do not include the following liquids:

(i) Gasoline (including aviation gasoline), kerosene (No. 1 distillate oil), diesel (No. 2 distillate oil), asphalt, and heavier distillate oils and fuel oils;

(ii) Any fuel consumed or dispensed on the plant site directly to users (such as fuels for fleet refueling or for refueling marine vessels that support the operation of the plant);

(iii) Hazardous waste;

(iv) Wastewater;

(v) Ballast water: or

(vi) Any non-crude oil liquid with an annual average true vapor pressure less than 0.7 kilopascals (0.1 psia).

Organic liquids distribution (OLD) operation means the combination of activities and equipment used to store or transfer organic liquids into, out of, or within a plant site regardless of the specific activity being performed. Activities include, but are not limited to, storage, transfer, blending, compounding, and packaging.

Permitting authority means one of the following:

(1) The State Air Pollution Control Agency, local agency, or other agency authorized by the EPA Administrator to carry out a permit program under 40 CFR part 70; or

(2) The EPA Administrator, in the case of EPA-implemented permit programs under title V of the CAA (42 U.S.C. 7661) and 40 CFR part 71.

Plant site means all contiguous or adjoining surface property that is under common control, including surface properties that are separated only by a road or other public right-of-way. Common control includes surface properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination.

Research and development facility means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which are not engaged in the manufacture of products for commercial sale, except in a *de minimis* manner.

Responsible official means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2, as applicable.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device that functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event.

Shutdown means the cessation of operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), including equipment required or used to comply with

this subpart, or the emptying and degassing of a storage tank. Shutdown as defined here includes, but is not limited to, events that result from periodic maintenance, replacement of equipment, or repair.

Startup means the setting in operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), for any purpose. Startup also includes the placing in operation of any individual piece of equipment required or used to comply with this subpart including, but not limited to, control devices and monitors.

Storage tank means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, or reinforced plastic) that provide structural support and is designed to hold a bulk quantity of liquid. Storage tanks do not include:

(1) Units permanently attached to conveyances such as trucks, trailers, rail cars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Bottoms receivers;

(4) Surge control vessels;

(5) Vessels storing wastewater; or

(6) Reactor vessels associated with a manufacturing process unit.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within chemical manufacturing processes when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Tank car means a car designed to carry liquid freight by rail, and including a permanently attached tank.

Total actual annual facility-level organic liquid loading volume means the total facility-level actual volume of organic liquid loaded for transport within or out of the facility through transfer racks that are part of the affected source into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) based on a 3-year rolling average, calculated annually.

(1) For existing affected sources, each 3-year rolling average is based on actual facility-level loading volume during each calendar year (January 1 through December 31) in the 3-year period. For calendar year 2004 only (the first year of the initial 3-year rolling average), if an owner or operator of an affected source does not have actual loading volume data for the time period from January 1, 2004, through February 2, 2004 (the time period prior to the effective date of the OLD NESHAP), the owner or operator shall compute a facility-level loading volume for this time period as follows: At the end of the 2004 calendar year, the owner or operator shall calculate a daily average facility-level loading volume (based on the actual loading volume for February 3, 2004, through December 31, 2004) and use that daily average to estimate the facility-level loading volume for the period of time from January 1, 2004, through February 2, 2004. The owner or operator shall then sum the estimated facility-level loading volume from January 1, 2004, through February 2, 2004, and the actual facility-level loading volume from February 3, 2004, through December 31, 2004, to calculate the annual facility-level loading volume for calendar year 2004.

(2)(i) For new affected sources, the 3-year rolling average is calculated as an average of three 12-month periods. An owner or operator must select as the beginning calculation date with which to start the calculations as either the initial startup date of the new affected source or the first day of the calendar

month following the month in which startup occurs. Once selected, the date with which the calculations begin cannot be changed.

(ii) The initial 3-year rolling average is based on the projected maximum facility-level annual loading volume for each of the 3 years following the selected beginning calculation date. The second 3-year rolling average is based on actual facility-level loading volume for the first year of operation plus a new projected maximum facility-level annual loading volume for second and third years following the selected beginning calculation date. The third 3-year rolling average is based on actual facility-level loading volume for the first 2 years of operation plus a new projected maximum annual facility-level loading volume for the third year following the beginning calculation date. Subsequent 3-year rolling averages are based on actual facility-level loading volume for each year in the 3-year rolling average.

Transfer rack means a single system used to load organic liquids into, or unload organic liquids out of, transport vehicles or containers. It includes all loading and unloading arms, pumps, meters, shutoff valves, pressure relief discharges, and other piping and equipment necessary for the transfer operation. Transfer equipment and operations that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Transport vehicle means a cargo tank or tank car.

Vapor balancing system means:

(1) A piping system that collects organic HAP vapors displaced from transport vehicles or containers during loading and routes the collected vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. For containers, the piping system must route the displaced vapors directly to the appropriate storage tank or to another storage tank connected to a common header in order to qualify as a vapor balancing system; or

(2) A piping system that collects organic HAP vapors displaced from the loading of a storage tank and routes the collected vapors to the transport vehicle from which the storage tank is filled.

Vapor collection system means any equipment located at the source (i.e., at the OLD operation) that is not open to the atmosphere; that is composed of piping, connections, and, if necessary, flow-inducing devices; and that is used for:

(1) Containing and conveying vapors displaced during the loading of transport vehicles to a control device;

(2) Containing and directly conveying vapors displaced during the loading of containers; or

(3) Vapor balancing. This does not include any of the vapor collection equipment that is installed on the transport vehicle.

Vapor-tight transport vehicle means a transport vehicle that has been demonstrated to be vapor-tight. To be considered vapor-tight, a transport vehicle equipped with vapor collection equipment must undergo a pressure change of no more than 250 pascals (1 inch of water) within 5 minutes after it is pressurized to 4,500 pascals (18 inches of water). This capability must be demonstrated annually using the procedures specified in EPA Method 27 of 40 CFR part 60, appendix A. For all other transport vehicles, vapor tightness is demonstrated by performing the U.S. DOT pressure test procedures for tank cars and cargo tanks.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

Table 1 to Subpart EEEE of Part 63—Organic Hazardous Air Pollutants

You must use the organic HAP information listed in the following table to determine which of the liquids handled at your facility meet the HAP content criteria in the definition of Organic Liquid in §63.2406.

Compound name	CAS No.[1]
2,4-D salts and esters	94–75–7
Acetaldehyde	75–07–0
Acetonitrile	75–05–8
Acetophenone	98–86–2
Acrolein	107–02–8
Acrylamide	79–06–1
Acrylic acid	79–10–7
Acrylonitrile	107–13–1
Allyl chloride	107–05–1
Aniline	62–53–3
Benzene	71–43–2
Biphenyl	92–52–4
Butadiene (1,3-)	106–99–0
Carbon tetrachloride	56–23–5
Chloroacetic acid	79–11–8
Chlorobenzene	108–90–7
2-Chloro-1,3-butadiene (Chloroprene)	126–99–8
Chloroform	67–66–3
m-Cresol	108–39–4
o-Cresol	95–48–7
p-Cresol	106–44–5
Cresols/cresylic acid	1319–77–3
Cumene	98–82–8
Dibenzofurans	132–64–9
Dibutylphthalate	84–74–2
Dichloroethane (1,2-) (Ethylene dichloride) (EDC)	107–06–2
Dichloropropene (1,3-)	542–75–6
Diethanolamine	111–42–2
Diethyl aniline (N,N-)	121–69–7
Diethylene glycol monobutyl ether	112–34–5
Diethylene glycol monomethyl ether	111–77–3

Compound name	CAS No.[1]
Diethyl sulfate	64–67–5
Dimethyl formamide	68–12–2
Dimethylhydrazine (1,1-)	57–14–7
Dioxane (1,4-) (1,4-Diethyleneoxide)	123–91–1
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106–89–8
Epoxybutane (1,2-)	106–88–7
Ethyl acrylate	140–88–5
Ethylbenzene	100–41–4
Ethyl chloride (Chloroethane)	75–00–3
Ethylene dibromide (Dibromomethane)	106–93–4
Ethylene glycol	107–21–1
Ethylene glycol dimethyl ether	110–71–4
Ethylene glycol monomethyl ether	109–86–4
Ethylene glycol monomethyl ether acetate	110–49–6
Ethylene glycol monophenyl ether	122–99–6
Ethylene oxide	75–21–8
Ethylidene dichloride (1,1-Dichloroethane)	75–34–3
Formaldehyde	50–00–0
Hexachloroethane	67–72–1
Hexane	110–54–3
Hydroquinone	123–31–9
Isophorone	78–59–1
Maleic anhydride	108–31–6
Methanol	67–56–1
Methyl chloride (Chloromethane)	74–87–3
Methylene chloride (Dichloromethane)	75–09–2
Methylenedianiline (4,4′-)	101–77–9
Methylene diphenyl diisocyanate	101–68–8
Methyl hydrazine	60–34–4
Methyl isobutyl ketone (Hexone) (MIBK)	108–10–1
Methyl methacrylate	80–62–6
Methyl tert-butyl ether (MTBE)	1634–04–4
Naphthalene	91–20–3
Nitrobenzene	98–95–3
Phenol	108–9–52

Compound name	CAS No.[1]
Phthalic anhydride	85–44–9
Polycyclic organic matter	50–32–8
Propionaldehyde	123–38–6
Propylene dichloride (1,2-Dichloropropane)	78–87–5
Propylene oxide	75–56–9
Quinoline	91–22–5
Styrene	100–42–5
Styrene oxide	96–09–3
Tetrachloroethane (1,1,2,2-)	79–34–5
Tetrachloroethylene (Perchloroethylene)	127–18–4
Toluene	108–88–3
Toluene diisocyanate (2,4-)	584–84–9
o-Toluidine	95–53–4
Trichlorobenzene (1,2,4-)	120–82–1
Trichloroethane (1,1,1-) (Methyl chloroform)	71–55–6
Trichloroethane (1,1,2-) (Vinyl trichloride)	79–00–5
Trichloroethylene	79–01–6
Triethylamine	121–44–8
Trimethylpentane (2,2,4-)	540–84–1
Vinyl acetate	108–05–4
Vinyl chloride (Chloroethylene)	75–01–4
Vinylidene chloride (1,1-Dichloroethylene)	75–35–4
Xylene (m-)	108–38–3
Xylene (o-)	95–47–6
Xylene (p-)	106–42–3
Xylenes (isomers and mixtures)	1330–20–7

Table 12 to Subpart EEEE of Part 63—Applicability of General Provisions to Subpart EEEE

As stated in §§63.2382 and 63.2398, you must comply with the applicable General Provisions requirements as follows:

Citation	Subject	Brief description	Applies to subpart EEEE
§63.1	Applicability	Initial applicability determination; Applicability after standard established; Permit requirements; Extensions, Notifications	Yes.
§63.2	Definitions	Definitions for part 63 standards	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities and Circumvention	Prohibited activities; Circumvention, Severability	Yes.
§63.5	Construction/Reconstruction	Applicability; Applications; Approvals	Yes.
§63.6(a)	Compliance with Standards/O&M Applicability	GP apply unless compliance extension; GP apply to area sources that become major	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved].		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in this subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes.
§63.6(c)(3)–(4)	[Reserved].		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources that become major must comply with major source standards by date indicated in this subpart or by equivalent time period (*e.g* ., 3 years)	Yes.
§63.6(d)	[Reserved].		
§63.6(e)(1)	Operation & Maintenance	Operate to minimize emissions at all times; correct malfunctions as soon as practicable; and operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met	Yes.
§63.6(e)(2)	[Reserved].		
§63.6(e)(3)	SSM Plan	Requirement for SSM plan; content of SSM plan; actions during SSM	Yes; however, (1) the 2-day reporting requirement in

Citation	Subject	Brief description	Applies to subpart EEEE
			paragraph §63.6(e)(3)(iv) does not apply and (2) §63.6(e)(3) does not apply to emissions sources not requiring control.
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	Yes.
§63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)	Opacity/Visible Emission Standards	Requirements for compliance with opacity and visible emission standards	No; except as it applies to flares for which Method 22 observations are required as part of a flare compliance assessment.
§63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must conduct 180 days after compliance date	Yes.
§63.7(a)(3)	Section 114 Authority	Adminsitrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Rescheduling	If you have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	Yes; however, for transfer racks per §§63.987(b)(3)(i)(A)–(B) and 63.997(e)(1)(v)(A)–(B) provide exceptions to the requirement for test runs to be at least 1 hour each.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	Yes; however, performance test data is to be submitted with the Notification of Compliance Status according to the schedule specified in §63.9(h)(1)–(6) below.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.
§63.8(a)(3)	[Reserved].		
§63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in §63.11	Yes; however, monitoring requirements in §63.987(c) also apply.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	Yes.
§63.8(c)(1)(i)—	Routine and Predictable SSM	Keep parts for routine repairs readily	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
(iii)		available; reporting requirements for SSM when action is described in SSM plan.	
§63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emission or parameter measurements; must verify operational status before or at performance test	Yes.
§63.8(c)(4)	CMS Requirements	CMS must be operating except during breakdown, out-of control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes; however, COMS are not applicable.
§63.8(c)(5)	COMS Minimum Procedures	COMS minimum procedures	No.
§63.8(c)(6)–(8)	CMS Requirements	Zero and high level calibration check requirements. Out-of-control periods	Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions	Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes, but only applies for CEMS.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes, but 40 CFR part 63, subpart SS also provides procedures for approval of CPMS.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	Yes.
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average	Yes; however, COMS are not applicable.
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§63.9(b)(1)–(2), (4)–(5)	Initial Notifications	Submit notification within 120 days after effective date; notification of intent to construct/reconstruct, notification of commencement of	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		construction/reconstruction, notification of startup; contents of each	
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate (BACT/LAER)	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Sources	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative	Yes; however, there are no opacity standards.
§63.9(h)(1)–(6)	Notification of Compliance Status	Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/visible emissions, which are due 30 days after; when to submit to Federal vs. State authority	Yes; however, (1) there are no opacity standards and (2) all initial Notification of Compliance Status, including all performance test data, are to be submitted at the same time, either within 240 days after the compliance date or within 60 days after the last performance test demonstrating compliance has been completed, whichever occurs first.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	No. These changes will be reported in the first and subsequent compliance reports.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General requirements; keep all records readily available; keep for 5 years	Yes.
§63.10(b)(2)(i)–(iv)	Records Related to Startup, Shutdown, and Malfunction	Occurrence of each for operations (process equipment); occurrence of	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		each malfunction of air pollution control equipment; maintenance on air pollution control equipment; actions during SSM	
§63.10(b)(2)(vi)–(xi)	CMS Records	Malfunctions, inoperative, out-of-control periods	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status	Yes.
§63.10(b)(3)	Records	Applicability determinations	Yes.
§63.10(c)	Records	Additional records for CMS	Yes.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	Yes.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	SSM Reports	Contents and submission	Yes.
§63.10(e)(1)–(2)	Additional CMS Reports	Must report results for each CEMS on a unit; written copy of CMS performance evaluation; 2–3 copies of COMS performance evaluation	Yes; however, COMS are not applicable.
§63.10(e)(3)(i)–(iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations)	Yes; however, note that the title of the report is the compliance report; deviations include excess emissions and parameter exceedances.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions or parameter monitoring exceedance (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		information in §§63.8(c)(7)–(8) and 63.10(c)(5)–(13)	
§63.10(e)(3)(vi)–(viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMS (now called deviations); requires all of the information in §§63.10(c)(5)–(13) and 63.8(c)(7)–(8)	Yes.
§63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11(b)	Flares	Requirements for flares	Yes; §63.987 requirements apply, and the section references §63.11(b).
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes.

SECTION E.25 40 CFR 60, Subpart GGGa—Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006

E.25.1 General Provisions Relating to NSPS Subpart GGGa [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, for each compressor, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service, except when otherwise specified in 40 CFR Part 60, Subpart GGGa.

E.25.2 NSPS Requirements for Subpart GGGa [40 CFR Part 60, Subpart GGGa]

Pursuant to 40 CFR 60.590a, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart GGGa, for the emission units listed in Condition E.25.1, as specified below:

§ 60.590a Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities in petroleum refineries.

(2) A compressor is an affected facility.

(3) The group of all the equipment (defined in §60.591a) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, is subject to the requirements of this subpart.

(c) Addition or replacement of equipment (defined in §60.591a) for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d) Facilities subject to subpart VV, subpart VVa, subpart GGG, or subpart KKK of this part are excluded from this subpart.

§ 60.591a Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act, in subpart A of part 60, or in subpart VVa of this part, and the following terms shall have the specific meanings given them.

Alaskan North Slope means the approximately 69,000 square mile area extending from the Brooks Range to the Arctic Ocean.

Asphalt (also known as Bitumen) is a black or dark brown solid or semi-solid thermo-plastic material possessing waterproofing and adhesive properties. It is a complex combination of higher molecular weight organic compounds containing a relatively high proportion of hydrocarbons having carbon numbers greater than C25 with a high carbon to hydrogen ratio. It is essentially non-volatile at ambient temperatures with closed cup flash point of 445 °F (230 °C) or greater.

Equipment means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service. For the purposes of recordkeeping and reporting only, compressors are considered equipment.

In hydrogen service means that a compressor contains a process fluid that meets the conditions specified in §60.593a(b).

In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in §60.593a(c).

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum refinery means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through the distillation of petroleum, or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

Process unit means the components assembled and connected by pipes or ducts to process raw materials and to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For the purpose of this subpart, process unit includes any feed, intermediate and final product storage vessels (except as specified in §60.482–1a(g)), product transfer racks, and connected ducts and piping. A process unit includes all equipment as defined in this subpart.

§ 60.592a Standards.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of §§60.482–1a to 60.482–10a as soon as practicable, but no later than 180 days after initial startup.

(b) For a given process unit, an owner or operator may elect to comply with the requirements of paragraphs (b)(1), (2), or (3) of this section as an alternative to the requirements in §60.482–7a.

(1) Comply with §60.483–1a.

(2) Comply with §60.483–2a.

(3) Comply with the Phase III provisions in §63.168, except an owner or operator may elect to follow the provisions in §60.482–7a(f) instead of §63.168 for any valve that is designated as being leakless.

(c) An owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of §60.484a.

(d) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §60.485a except as provided in §60.593a.

(e) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §§60.486a and 60.487a.

§ 60.593a Exceptions.

(a) Each owner or operator subject to the provisions of this subpart may comply with the following exceptions to the provisions of subpart VVa of this part.

(b)(1) Compressors in hydrogen service are exempt from the requirements of §60.592a if an owner or operator demonstrates that a compressor is in hydrogen service.

(2) Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E260–73, 91, or 96, E168–67, 77, or 92, or E169–63, 77, or 93 (incorporated by reference as specified in §60.17) shall be used.

(3)(i) An owner or operator may use engineering judgment rather than procedures in paragraph (b)(2) of this section to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in paragraph (b)(2) of this section shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in paragraph (b)(2).

(c) Any existing reciprocating compressor that becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482–3a(a), (b), (c), (d), (e), and (h) provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of §60.482–3a(a), (b), (c), (d), (e), and (h).

(d) An owner or operator may use the following provision in addition to §60.485a(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86–78, 82, 90, 93, 95, or 96 (incorporated by reference as specified in §60.17).

(e) Pumps in light liquid service and valves in gas/vapor and light liquid service within a process unit that is located in the Alaskan North Slope are exempt from the requirements of §§60.482–2a and 60.482–7a.

(f) Open-ended valves or lines containing asphalt as defined in §60.591a are exempt from the requirements of §60.482–6a(a) through (c).

(g) Connectors in gas/vapor or light liquid service are exempt from the requirements in §60.482–11a, provided the owner or operator complies with §60.482–8a for all connectors, not just those in heavy liquid service.

SECTION E.26 40 CFR 60, Subpart VVa—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

E.26.1 General Provisions Relating to NSPS Subpart VVa [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, for each compressor, valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service, except when otherwise specified in 40 CFR Part 60, Subpart VVa.

E.26.2 NSPS Requirements for Subpart VVa [40 CFR Part 60, Subpart VVa]

Pursuant to 40 CFR 60.480a, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VVa, for the emission units listed in Condition E.26.1, as specified below:

§ 60.480a Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in §60.481a) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in §60.486a(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) of a chemical listed in §60.489 is exempt from §§60.482–1a through 60.482–11a.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§60.482–1a through 60.482–11a.

(4)

(5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from §§60.482–1a through 60.482–11a.

(e) *Alternative means of compliance* —(1) *Option to comply with part 65.* (i) Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§60.482–1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of §§60.485a(d), (e), and (f), and 60.486a(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(ii) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(1)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply.

Owners and operators who choose to comply with 40 CFR part 65, subpart F, must comply with 40 CFR part 65, subpart A.

(2) *Part 63, subpart H.* (i) Owners or operators may choose to comply with the provisions of 40 CFR part 63, subpart H, to satisfy the requirements of §§60.482–1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 63, subpart H, the requirements of §60.485a(d), (e), and (f), and §60.486a(i) and (j) still apply.

(ii) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 63, subpart H must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 63, subpart H, except that provisions required to be met prior to implementing 40 CFR part 63 still apply. Owners and operators who choose to comply with 40 CFR part 63, subpart H, must comply with 40 CFR part 63, subpart A.

§ 60.481a Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA) or in subpart A of part 60, and the following terms shall have the specific meanings given them.

Capital expenditure means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: $P = R \times A$, where:

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$A = Y \times (B \div 100)$;

(2) The percent Y is determined from the following equation: $Y = 1.0 - 0.575 \log X$, where X is 2006 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable Value for B

Subpart applicable to facility	Value of B to be used in equation
VVa	12.5
GGGa	7.0

Closed-loop system means an enclosed system that returns process fluid to the process.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers for purged liquids must be covered or closed when not being filled or emptied.

Closed vent system means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation.

Control device means an enclosed combustion device, vapor recovery system, or flare.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07007–2300).

In gas/vapor service means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in §60.485a(e).

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) (0.7 psia) below ambient pressure.

In VOC service means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of §60.485a(d) specify how to determine that a piece of equipment is not in VOC service.)

Initial calibration value means the concentration measured during the initial calibration at the beginning of each day required in §60.485a(b)(1), or the most recent calibration if the instrument is recalibrated during the day (i.e., the calibration is adjusted) after a calibration drift assessment.

Liquids dripping means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

Open-ended valve or line means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

Process improvement means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

Process unit means the components assembled and connected by pipes or ducts to process raw materials and to produce, as intermediate or final products, one or more of the chemicals listed in §60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For the purpose of this subpart, process unit includes any feed, intermediate and final product storage vessels (except as specified in §60.482–1a(g)), product transfer racks, and connected ducts and piping. A process unit includes all equipment as defined in this subpart.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours.

(2) An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.

(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Quarter means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

Repaired means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as defined in the applicable sections of this subpart and, except for leaks identified in accordance with §§60.482–2a(b)(2)(ii) and (d)(6)(ii) and (d)(6)(iii), 60.482–3a(f), and 60.482–10a(f)(1)(ii), is re-monitored as specified in §60.485a(b) to verify that emissions from the equipment are below the applicable leak definition.

Replacement cost means the capital needed to purchase all the depreciable components in a facility.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Sensor means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

Storage vessel means a tank or other vessel that is used to store organic liquids that are used in the process as raw material feedstocks, produced as intermediates or final products, or generated as wastes. Storage vessel does not include vessels permanently attached to motor vehicles, such as trucks, railcars, barges or ships.

Synthetic organic chemicals manufacturing industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in §60.489.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are used to fill tank trucks and/or railcars with organic liquids.

Volatile organic compounds or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in §60.2 Definitions.

§ 60.482-1a Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482–1a through 60.482–10a or §60.480a(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§60.482–1a to 60.482–10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485a.

(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482–2a, 60.482–3a, 60.482–5a, 60.482–6a, 60.482–7a, 60.482–8a, and 60.482–10a as provided in §60.484a.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482–2a, 60.482–3a, 60.482–5a, 60.482–6a, 60.482–7a, 60.482–8a, or 60.482–10a, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§60.482–2a through 60.482–10a if it is identified as required in §60.486a(e)(5).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hr/yr is excluded from the requirements of §§60.482–2a through 60.482–11a if it is identified as required in §60.486a(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.

(2) The equipment is in VOC service only during process malfunctions or other emergencies.

(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

(f)(1) If a dedicated batch process unit operates less than 365 days during a year, an owner or operator may monitor to detect leaks from pumps, valves, and open-ended valves or lines at the frequency specified in the following table instead of monitoring as specified in §§60.482–2a, 60.482–7a, and 60.483.2a:

	Equivalent monitoring frequency time in use		
Operating time (percent of hours during year)	**Monthly**	**Quarterly**	**Semiannually**
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three quarters	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

(2) Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in paragraph (f)(1) of this section, provided the operating time of all such process units is considered.

(3) The monitoring frequencies specified in paragraph (f)(1) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in paragraphs (f)(3)(i) through (iv) of this section.

(i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(ii) When monitoring is conducted semiannually (*i.e.* , once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

(g) If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to this subpart, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to this subpart of this part, the storage vessel is assigned to any process unit subject to subpart VV of this part. If the predominant use of the storage vessel varies from year to year, then the owner or operator must estimate the predominant use initially and reassess every 3 years. The owner or operator must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.

§ 60.482-2a Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485a(b), except as provided in §60.482–1a(c) and (f) and paragraphs (d), (e), and (f) of this section. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in §60.482–1a(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in §60.482–1a(f).

(b)(1) The instrument reading that defines a leak is specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) 5,000 parts per million (ppm) or greater for pumps handling polymerizing monomers;

(ii) 2,000 ppm or greater for all other pumps.

(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this section. This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than the concentration specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable.

(i) Monitor the pump within 5 days as specified in §60.485a(b). A leak is detected if the instrument reading measured during monitoring indicates a leak as specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable. The leak shall be repaired using the procedures in paragraph (c) of this section.

(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak using either the procedures in paragraph (c) of this section or by eliminating the visual indications of liquids dripping.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this section, where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (6) of this section are met.

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10a; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4)(i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this section prior to the next required inspection.

(A) Monitor the pump within 5 days as specified in §60.485a(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this section, a leak is detected.

(6)(i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this section, it shall be repaired as specified in paragraph (c) of this section.

(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this section shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this section shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing;

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485a(c); and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482–10a, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

§ 60.482-3a Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482–1a(c) and paragraphs (h), (i), and (j) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10a; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482–10a, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485a(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from paragraphs (a) through (e) and (h) of this section, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

§ 60.482-4a Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485a(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482–9a.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485a(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482–10a is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482–9a.

§ 60.482-5a Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §60.482–1a(c) and paragraph (c) of this section.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482–10a.

(iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(A) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(C) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of 40 CFR 61.343 through 40 CFR 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 60.482-6a Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482–1a(c) and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b), and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

§ 60.482-7a Standards: Valves in gas/vapor service and in light liquid service.

(a)(1) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485a(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, §60.482–1a(c) and (f), and §§60.483–1a and 60.483–2a.

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this section, §60.482–1a(c), and §§60.483–1a and 60.483–2a.

(i) Monitor the valve as in paragraph (a)(1) of this section. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

(ii) If the existing valves in the process unit are monitored in accordance with §60.483–1a or §60.483–2a, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483–2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(c)(1)(i) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into two or three subgroups of valves and monitor each subgroup

in a different month during the quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the valves assigned to each subgroup.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482–9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485a(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section, and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either:

(i) Becomes an affected facility through §60.14 or §60.15 and was constructed on or before January 5, 1981; or

(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the owner or operator.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 60.482-8a Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485a(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9a.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §§60.482–2a(c)(2) and 60.482–7a(e).

§ 60.482-9a Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves and connectors will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482–10a.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(f) When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

§ 60.482-10a Standards: Closed vent systems and control devices.

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (ii) of this section:

(i) Conduct an initial inspection according to the procedures in §60.485a(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §60.485a(b); and

(ii) Conduct annual inspections according to the procedures in §60.485a(b).

(g) Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486a(c).

(4) For each inspection conducted in accordance with §60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§ 60.482-11a Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator shall initially monitor all connectors in the process unit for leaks by the later of either 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) Except as allowed in §60.482–1a(c), §60.482–10a, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in §60.485a(b) and, as applicable, §60.485a(c).

(2) If an instrument reading greater than or equal to 500 ppm is measured, a leak is detected.

(3) The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent of leaking connectors within the total monitored connectors.

(C) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(iv) If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using the following equation:

$\%C_L = C_L / C_t * 100$

Where:

$\%C_L$= Percent of leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (iii) of this section.

C_L= Number of connectors measured at 500 ppm or greater, by the method specified in §60.485a(b).

C_t= Total number of monitored connectors in the process unit or affected facility.

(d) When a leak is detected pursuant to paragraphs (a) and (b) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9a. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected.

(e) Any connector that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section if:

(1) The owner or operator of the connector demonstrates that the connector is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) and (b) of this section; and

(2) The owner or operator of the connector has a written plan that requires monitoring of the connector as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (d) of this section if a leak is detected.

(f) *Inaccessible, ceramic, or ceramic-lined connectors* . (1) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d)

of this section, and from the recordkeeping and reporting requirements of §§63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (f)(1)(i) through (vi) of this section, as applicable:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

(g) Except for instrumentation systems and inaccessible, ceramic, or ceramic-lined connectors meeting the provisions of paragraph (f) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated.

§ 60.483-1a Alternative standards for valves—allowable percentage of valves leaking.

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487a(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with §60.482–7a(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485a(b).

(2) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in §60.485a(h).

§ 60.483-2a Alternative standards for valves—skip period leak detection and repair.

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in §60.487(d)a.

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482–7a.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in §60.482–7a but can again elect to use this section.

(5) The percent of valves leaking shall be determined as described in §60.485a(h).

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(7) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with §60.482–7a(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

§ 60.484a Equivalence of means of emission limitation.

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e)(1) After a request for determination of equivalence is received, the Administrator will publish a notice in theFederal Registerand provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in theFederal Register.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the CAA.

(f)(1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

§ 60.485a Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§60.482–1a through 60.482–11a, 60.483a, and 60.484a as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21 of appendix A–7 of this part. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(2) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A–7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(7). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

(c) The owner or operator shall determine compliance with the no-detectable-emission standards in §§60.482–2a(e), 60.482–3a(i), 60.482–4a, 60.482–7a(f), and 60.482–10a(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 of appendix A–7 of this part shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 of appendix A–7 of this part shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$V_{max} = K_1 + K_2 H_T$

Where:

V_{max}= Maximum permitted velocity, m/sec (ft/sec).

H_T= Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K_1= 8.706 m/sec (metric units) = 28.56 ft/sec (English units).

K_2= 0.7084 m^4 /(MJ-sec) (metric units) = 0.087 ft^4 /(Btu-sec) (English units).

(4) The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

K = Conversion constant, 1.740×10^{-7} (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = 4.674×10^{-6} [(g-mole)(Btu)/(ppm-scf-kcal)] (English units).

C_i= Concentration of sample component “i,” ppm

H_i= net heat of combustion of sample component “i” at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole.

(5) Method 18 of appendix A–6 of this part or ASTM D6420–99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420–99, and the target concentration is between 150 parts per billion by volume and 100 ppmv) and ASTM D2504–67, 77, or 88 (Reapproved 1993) (incorporated by reference-see §60.17) shall be used to determine the concentration of sample component “i.”

(6) ASTM D2382–76 or 88 or D4809–95 (incorporated by reference-see §60.17) shall be used to determine the net heat of combustion of component “i” if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D of appendix A–7 of this part, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

(h) The owner or operator shall determine compliance with §60.483–1a or §60.483–2a as follows:

(1) The percent of valves leaking shall be determined using the following equation:

$\%V_L = (V_L / V_T) * 100$

Where:

$\%V_L$= Percent leaking valves.

V_L= Number of valves found leaking.

V_T= The sum of the total number of valves monitored.

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

(3) The number of valves leaking shall include valves for which repair has been delayed.

(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

(5) If the process unit has been subdivided in accordance with §60.482–7a(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.

(6) The total number of valves monitored does not include a valve monitored to verify repair.

§ 60.486a Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) The owner or operator shall record the information specified in paragraphs (a)(3)(i) through (v) of this section for each monitoring event required by §§60.482–2a, 60.482–3a, 60.482–7a, 60.482–8a, 60.482–11a, and 60.483–2a.

(i) Monitoring instrument identification.

(ii) Operator identification.

(iii) Equipment identification.

(iv) Date of monitoring.

(v) Instrument reading.

(b) When each leak is detected as specified in §§60.482–2a, 60.482–3a, 60.482–7a, 60.482–8a, 60.482–11a, and 60.483–2a, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7a(c) and no leak has been detected during those 2 months.

(3) The identification on a connector may be removed after it has been monitored as specified in §60.482–11a(b)(3)(iv) and no leak has been detected during that monitoring.

(4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482–2a, 60.482–3a, 60.482–7a, 60.482–8a, 60.482–11a, and 60.483–2a, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) Maximum instrument reading measured by Method 21 of appendix A–7 of this part at the time the leak is successfully repaired or determined to be nonrepairable, except when a pump is repaired by eliminating indications of liquids dripping.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10a shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §60.482–10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§60.482–2a, 60.482–3a, 60.482–4a, and 60.482–5a are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482–2a, 60.482–3a, 60.482–4a, and 60.482–5a.

(e) The following information pertaining to all equipment subject to the requirements in §§60.482–1a to 60.482–11a shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482–2a(e), 60.482–3a(i), and 60.482–7a(f).

(ii) The designation of equipment as subject to the requirements of §60.482–2a(e), §60.482–3a(i), or §60.482–7a(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482–4a.

(4)(i) The dates of each compliance test as required in §§60.482–2a(e), 60.482–3a(i), 60.482–4a, and 60.482–7a(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with §60.482–1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.

(8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of this section for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of appendix A–7 of this part and §60.485a(b).

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of appendix A–7 of this part.

(v) Results of each calibration drift assessment required by §60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value).

(vi) If an owner or operator makes their own calibration gas, a description of the procedure used.

(9) The connector monitoring schedule for each process unit as specified in §60.482–11a(b)(3)(v).

(10) Records of each release from a pressure relief device subject to §60.482–4a.

(f) The following information pertaining to all valves subject to the requirements of §60.482–7a(g) and (h), all pumps subject to the requirements of §60.482–2a(g), and all connectors subject to the requirements of §60.482–11a(e) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with §60.483–2a:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§60.482–2a(d)(5) and 60.482–3a(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480a(d):

(1) An analysis demonstrating the design capacity of the affected facility,

(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of §60.7(b) and (d) do not apply to affected facilities subject to this subpart.

§ 60.487a Reporting requirements.

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning 6 months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of §60.482–7a, excluding those valves designated for no detectable emissions under the provisions of §60.482–7a(f).

(3) Number of pumps subject to the requirements of §60.482–2a, excluding those pumps designated for no detectable emissions under the provisions of §60.482–2a(e) and those pumps complying with §60.482–2a(f).

(4) Number of compressors subject to the requirements of §60.482–3a, excluding those compressors designated for no detectable emissions under the provisions of §60.482–3a(i) and those compressors complying with §60.482–3a(h).

(5) Number of connectors subject to the requirements of §60.482–11a.

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486a:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in §60.482–7a(b) or §60.483–2a,

(ii) Number of valves for which leaks were not repaired as required in §60.482–7a(d)(1),

(iii) Number of pumps for which leaks were detected as described in §60.482–2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in §60.482–2a(c)(1) and (d)(6),

(v) Number of compressors for which leaks were detected as described in §60.482–3a(f),

(vi) Number of compressors for which leaks were not repaired as required in §60.482–3a(g)(1),

(vii) Number of connectors for which leaks were detected as described in §60.482–11a(b)

(viii) Number of connectors for which leaks were not repaired as required in §60.482–11a(d), and

(xi) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§60.483–1a or 60.483–2a shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a state under section 111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the state.

§ 60.488a Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under §60.15: Pump seals, nuts and bolts, rupture disks, and packings.

(b) Under §60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in §60.488a(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§ 60.489a List of chemicals produced by affected facilities.

Process units that produce, as intermediates or final products, chemicals listed in §60.489 are covered under this subpart. The applicability date for process units producing one or more of these chemicals is November 8, 2006.

Section E.27 40 CFR 60, Subpart NNN—Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations and 40 CFR 65 - Consolidated Federal Air Rule

E.27.1 General Provisions Relating to NSPS Subpart NNN [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR Part 60.1(a), the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, for each affected distillation unit, except when otherwise specified in 40 CFR Part 60, Subpart NNN.

E.27.2 NSPS Requirements for Subpart NNN [40 CFR Part 60, Subpart NNN]

Pursuant to 40 CFR 60.480a, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart NNN, for the affected distillation units, as specified below:

§ 60.660 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to each affected facility designated in paragraph (b) of this section that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate, except as provided in paragraph (c).

(b) The affected facility is any of the following for which construction, modification, or reconstruction commenced after December 30, 1983:

(2) Each combination of a distillation unit and the recovery system into which its vent stream is discharged.

(d) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators of process vents that are subject to this subpart may choose to comply with the provisions of 40 CFR part 65, subpart D, to satisfy the requirements of §§60.662 through 60.665 and 60.668. The provisions of 40 CFR part 65 also satisfy the criteria of paragraphs (c)(4) and (6) of this section. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart D, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those process vents. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (d)(2) do not apply to owners or operators of process vents complying with 40 CFR part 65, subpart D, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart D, must comply with 40 CFR part 65, subpart A.

(3) *Compliance date.* Owners or operators who choose to comply with 40 CFR part 65, subpart D, at initial startup shall comply with paragraphs (d)(1) and (2) of this section for each vent stream on and after the date on which the initial performance test is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first.

(4) *Initial startup notification.* Each owner or operator subject to the provisions of this subpart that chooses to comply with 40 CFR part 65, subpart D, at initial startup shall notify the Administrator of the specific provisions of 40 CFR 65.63(a)(1), (2), or (3), with which the owner or operator has elected to comply. Notification shall be submitted with the notifications of initial startup required by 40 CFR 65.5(b).

[Note: The intent of these standards is to minimize the emissions of VOC through the application of best demonstrated technology (BDT). The numerical emission limits in these standards are expressed in terms of total organic compounds (TOC), measured as TOC less methane and ethane. This emission limit reflects the performance of BDT.]

[55 FR 26942, June 29, 2000, as amended at 65 FR 78279, Dec. 14, 2000]

§ 60.661 Definitions.

As used in this subpart, all terms not defined here shall have the meaning given them in the Act and in subpart A of part 60, and the following terms shall have the specific meanings given them.

Batch distillation operation means a noncontinuous distillation operation in which a discrete quantity or batch of liquid feed is charged into a distillation unit and distilled at one time. After the initial charging of the liquid feed, no additional liquid is added during the distillation operation.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam.

By compound means by individual stream components, not carbon equivalents.

Continuous recorder means a data recording device recording an instantaneous data value at least once every 15 minutes.

Distillation operation means an operation separating one or more feed stream(s) into two or more exit stream(s), each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor-phase as they approach equilibrium within the distillation unit.

Distillation unit means a device or vessel in which distillation operations occur, including all associated internals (such as trays or packing) and accessories (such as reboiler, condenser, vacuum pump, steam jet, etc.), plus any associated recovery system.

Flame zone means the portion of the combustion chamber in a boiler occupied by the flame envelope.

Flow indicator means a device which indicates whether gas flow is present in a vent stream.

Halogenated vent stream means any vent stream determined to have a total concentration (by volume) of compounds containing halogens of 20 ppmv (by compound) or greater.

Incinerator means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

Process heater means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that is heated to produce steam.

Process unit means equipment assembled and connected by pipes or ducts to produce, as intermediates or final products, one or more of the chemicals in §60.667. A process unit can operate independently if supplied with sufficient fuel or raw materials and sufficient product storage facilities.

Product means any compound or chemical listed in §60.667 that is produced for sale as a final product as that chemical, or for use in the production of other chemicals or compounds. By-products, co-products, and intermediates are considered to be products.

Recovery device means an individual unit of equipment, such as an absorber, carbon adsorber, or condenser, capable of and used for the purpose of recovering chemicals for use, reuse, or sale.

Recovery system means an individual recovery device or series of such devices applied to the same vent stream.

Total organic compounds (TOC) means those compounds measured according to the procedures in §60.664(b)(4). For the purposes of measuring molar composition as required in §60.664(d)(2)(i); hourly emissions rate as required in §60.664(d)(5) and §60.664(e); and TOC concentration as required in §60.665(b)(4) and §60.665(g)(4), those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone are to be excluded. The compounds to be excluded are identified in Environmental Protection Agency's statements on ozone abatement policy for State Implementation Plans (SIP) revisions (42 FR 35314; 44 FR 32042; 45 FR 32424; 45 FR 48942).

TRE index value means a measure of the supplemental total resource requirement per unit reduction of TOC associated with an individual distillation vent stream, based on vent stream flow rate, emission rate of TOC net heating value, and corrosion properties (whether or not the vent stream is halogenated), as quantified by the equation given under §60.664(e).

Vent stream means any gas stream discharged directly from a distillation facility to the atmosphere or indirectly to the atmosphere after diversion through other process equipment. The vent stream excludes relief valve discharges and equipment leaks including, but not limited to, pumps, compressors, and valves.

§ 60.666 Reconstruction.

For purposes of this subpart “fixed capital cost of the new components,” as used in §60.15, includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following December 30, 1983. For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§ 60.667 Chemicals affected by subpart NNN.

Chemical name	CAS No.*
Acetaldehyde	75–07–0
Acetaldol	107–89–1
Acetic acid	64–19–7
Acetic anhydride	108–24–7
Acetone	67–64–1
Acetone cyanohydrin	75–86–5
Acetylene	74–86–2
Acrylic acid	79–10–7
Acrylonitrile	107–13–1
Adipic acid	124–04–9
Adiponitrile	111–69–3
Alcohols, C–11 or lower, mixtures	

Chemical name	CAS No.*
Alcohols, C–12 or higher, mixtures	
Allyl chloride	107–05–1
Amylene	513–35–9
Amylenes, mixed	
Aniline	62–53–3
Benzene	71–43–2
Benzenesulfonic acid	98–11–3
Benzenesulfonic acid C_{10-16}-alkyl derivatives, sodium salts	68081–81–2
Benzoic acid, tech	65–85–0
Benzyl chloride	100–44–7
Biphenyl	92–52–4
Bisphenol A	80–05–7
Brometone	76–08–4
1,3-Butadiene	106–99–0
Butadiene and butene fractions	
n-Butane	106–97–8
1,4-Butanediol	110–63–4
Butanes, mixed	
1-Butene	106–98–9
2-Butene	25167–67–3
Butenes, mixed	
n-Butyl acetate	123–86–4
Butyl acrylate	141–32–2
n-Butyl alcohol	71–36–3
sec-Butyl alcohol	78–92–2
tert-Butyl alcohol	75–65–0
Butylbenzyl phthalate	85–68–7
Butylene glycol	107–88–0
tert-Butyl hydroperoxide	75–91–2
2-Butyne-1,4-diol	110–65–6
Butyraldehyde	123–72–8
Butyric anhydride	106–31–0

Chemical name	CAS No.*
Caprolactam	105–60–2
Carbon disulfide	75–15–0
Carbon tetrabromide	558–13–4
Carbon tetrachloride	56–23–5
Chlorobenzene	108–90–7
2-Chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine	1912–24–9
Chloroform	67–66–3
p-Chloronitrobenzene	100–00–5
Chloroprene	126–99–8
Citric acid	77–92–9
Crotonaldehyde	4170–30–0
Crotonic acid	3724–65–0
Cumene	98–82–8
Cumene hydroperoxide	80–15–9
Cyanuric chloride	108–77–0
Cyclohexane	110–82–7
Cyclohexane, oxidized	68512–15–2
Cyclohexanol	108–93–0
Cyclohexanone	108–94–1
Cyclohexanone oxime	100–64–1
Cyclohexene	110–83–8
1,3-Cyclopentadiene	542–92–7
Cyclopropane	75–19–4
Diacetone alcohol	123–42–2
Dibutanized aromatic concentrate	
1,4-Dichlorobutene	110–57–6
3,4-Dichloro-1-butene	64037–54–3
Dichlorodifluoromethane	75–71–8
Dichlorodimethylsilane	75–78–5
Dichlorofluoromethane	75–43–4
-Dichlorohydrin	96–23–1
Diethanolamine	111–42–2

Chemical name	CAS No.*
Diethylbenzene	25340–17–4
Diethylene glycol	111–46–6
Di-n-heptyl-n-nonyl undecyl phthalate	85–68–7
Di-isodecyl phthalate	26761–40–0
Diisononyl phthalate	28553–12–0
Dimethylamine	124–40–3
Dimethyl terephthalate	120–61–6
2,4-Dinitrotoluene	121–14–2
2,4-(and 2,6)-dinitrotoluene	121–14–2
	606–20–2
Dioctyl phthalate	117–81–7
Dodecene	25378–22–7
Dodecylbenzene, non linear	
Dodecylbenzenesulfonic acid	27176–87–0
Dodecylbenzenesulfonic acid, sodium salt	25155–30–0
Epichlorohydrin	106–89–8
Ethanol	64–17–5
Ethanolamine	141–43–5
Ethyl acetate	141–78–6
Ethyl acrylate	140–88–5
Ethylbenzene	100–41–4
Ethyl chloride	75–00–3
Ethyl cyanide	107–12–0
Ethylene	74–85–1
Ethylene dibromide	106–93–4
Ethylene dichloride	107–06–2
Ethylene glycol	107–21–1
Ethylene glycol monobutyl	111–76–2
Ethylene glycol monoethyl ether	110–80–5
Ethylene glycol monoethyl ether acetate	111–15–9
Ethylene glycol monomethyl ether	109–86–4
Ethylene oxide	75–21–8

Chemical name	CAS No.*
2-Ethylhexanal	26266–68–2
2-Ethylhexyl alcohol	104–76–7
(2-Ethylhexyl) amine	104–75–6
Ethylmethylbenzene	25550–14–5
6-Ethyl-1,2,3,4-tetrahydro 9,10-anthracenedione	15547–17–8
Formaldehyde	50–00–0
Glycerol	56–81–5
n-Heptane	142–82–5
Heptenes (mixed)	
Hexadecyl chloride	
Hexamethylene diamine	124–09–4
Hexamethylene diamine adipate	3323–53–3
Hexamethylenetetramine	100–97–0
Hexane	110–54–3
2-Hexenedinitrile	13042–02–9
3-Hexenedinitrile	1119–85–3
Hydrogen cyanide	74–90–8
Isobutane	75–28–5
Isobutanol	78–83–1
Isobutylene	115–11–7
Isobutyraldehyde	78–84–2
Isodecyl alcohol	25339–17–7
Isooctyl alcohol	26952–21–6
Isopentane	78–78–4
Isophthalic acid	121–91–5
Isoprene	78–79–5
Isopropanol	67–63–0
Ketene	463–51–4
Linear alcohols, ethoxylated, mixed	
Linear alcohols, ethoxylated, and sulfated, sodium salt, mixed	
Linear alcohols, sulfated, sodium salt, mixed	
Linear alkylbenzene	123–01–3

Chemical name	CAS No.*
Magnesium acetate	142–72–3
Maleic anhydride	108–31–6
Melamine	108–78–1
Mesityl oxide	141–79–7
Methacrylonitrile	126–98–7
Methanol	67–56–1
Methylamine	74–89–5
ar-Methylbenzenediamine	25376–45–8
Methyl chloride	74–87–3
Methylene chloride	75–09–2
Methyl ethyl ketone	78–93–3
Methyl iodide	74–88–4
Methyl isobutyl ketone	108–10–1
Methyl methacrylate	80–62–6
2-Methylpentane	107–83–5
1-Methyl-2-pyrrolidone	872–50–4
Methyl tert-butyl ether	
Naphthalene	91–20–3
Nitrobenzene	98–95–3
1-Nonene	27215–95–8
Nonyl alcohol	143–08–8
Nonylphenol	25154–52–3
Nonylphenol, ethoxylated	9016–45–9
Octene	25377–83–7
Oil-soluble petroleum sulfonate, calcium salt	
Oil-soluble petroleum sulfonate, sodium salt	
Pentaerythritol	115–77–5
n-Pentane	109–66–0
3-Pentenenitrile	4635–87–4
Pentenes, mixed	109–67–1
Perchloroethylene	127–18–4
Phenol	108–95–2

Chemical name	CAS No.*
1-Phenylethyl hydroperoxide	3071–32–7
Phenylpropane	103–65–1
Phosgene	75–44–5
Phthalic anhydride	85–44–9
Propane	74–98–6
Propionaldehyde	123–38–6
Propionic acid	79–09–4
Propyl alcohol	71–23–8
Propylene	115–07–1
Propylene chlorohydrin	78–89–7
Propylene glycol	57–55–6
Propylene oxide	75–56–9
Sodium cyanide	143–33–9
Sorbitol	50–70–4
Styrene	100–42–5
Terephthalic acid	100–21–0
1,1,2,2-Tetrachloroethane	79–34–5
Tetraethyl lead	78–00–2
Tetrahydrofuran	109–99–9
Tetra (methyl-ethyl) lead	
Tetramethyl lead	75–74–1
Toluene	108–88–3
Toluene-2,4-diamine	95–80–7
Toluene-2,4-(and, 2,6)-diisocyanate (80/20 mixture)	26471–62–5
Tribromomethane	75–25–2
1,1,1-Trichloroethane	71–55–6
1,1,2-Trichloroethane	79–00–5
Trichloroethylene	79–01–6
Trichlorofluoromethane	75–69–4
1,1,2-Trichloro-1,2,2-trifluoroethane	76–13–1
Triethanolamine	102–71–6
Triethylene glycol	112–27–6

Chemical name	CAS No.*
Vinyl acetate	108–05–4
Vinyl chloride	75–01–4
Vinylidene chloride	75–35–4
m-Xylene	108–38–3
o-Xylene	95–47–6
p-Xylene	106–42–3
Xylenes (mixed)	1330–20–7
m-Xylenol	576–26–1

*CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

[55 FR 26942, June 29, 1990, as amended at 60 FR 58237, 58238, Nov. 27, 1995]

E.27.3 Consolidated Federal Air Rule Requirements [40 CFR Part 65]

Pursuant to 40 CFR 60.660(d), the Permittee shall comply with the provisions of 40 CFR Part 65, for the affected distillation units, as specified below:

§ 65.1 Applicability.

(a) The provisions of this subpart apply to owners or operators expressly referenced to this part from a subpart of 40 CFR part 60, 61, or 63 for which the owner or operator has chosen to comply with the provisions of this part as an alternative to the provisions in the referencing subpart as specified in paragraph (b) of this section.

(b) Owners or operators may choose to comply with this part for any regulated source subject to a referencing subpart.

(c) Compliance with this part instead of the referencing subparts does not alter the applicability of the referencing subparts. This part applies to only the equipment, process vents, storage vessels, or transfer operations to which the referencing subparts apply. This part does not extend applicability to equipment, process vents, storage vessels, or transfer operations that are not regulated by the referencing subpart.

(d) The provisions of 40 CFR part 60, subpart A; 40 CFR part 61, subpart A; and 40 CFR part 63, subpart A, that are listed in table 1 of this subpart still apply to owners or operators of regulated sources expressly referenced to this part. The owner or operator shall comply with the provisions in table 1 of this subpart in the column corresponding to the referencing subpart. All provisions of 40 CFR part 60, subpart A; 40 CFR part 61, subpart A; and 40 CFR part 63, subpart A, not expressly referenced in table 1 of this subpart do not apply, and the provisions of this part apply instead, except that provisions which were required to be met prior to implementation of this part 65 still apply.

(e) The provisions of the referencing subparts that are listed in table 2 of this subpart still apply to owners or operators of regulated sources expressly referenced to this part. The owner or operator shall comply with the provisions in table 2 of this subpart in the row corresponding to the referencing subpart. All provisions of the referencing subparts not expressly referenced in table 2 to this subpart do not apply and the provisions of this part apply instead, except that provisions which were required to be met prior to implementation of this part 65 still apply.

(f) *Implementation date.* Owners or operators who choose to comply with this part shall comply by the dates specified in paragraph (f)(1) of this section, as applicable, and shall meet the requirement in paragraph (f)(2) of this section.

(1) Owners or operators shall implement this part as specified in an implementation schedule or at initial startup. The implementation date shall be established by mutual agreement with the Administrator or delegated authority. The implementation schedule shall be included in the source's title V permit. For non-title V sources, the implementation schedule shall be proposed by the source in the Initial Notification for Part 65 Applicability as specified in §65.5(c).

(2) There shall be no gaps in compliance between compliance with the referencing subpart and compliance with this part.

(g) *Transitioning out of this part.* Owners or operators who decide to no longer comply with this part and to comply with the provisions in the referencing subpart instead shall comply with the following, as applicable:

(1) This transition shall be carried out on a date established in a title V permit or if the source is not a title V source, by a date established by agreement with the Administrator or delegated authority. The transition date shall be proposed in a title V permit amendment, or for non-title V sources, in a periodic report or separate notice.

(2) There shall be no gaps in compliance between compliance with this part and compliance with the referencing subpart provisions.

(h) *Overlap with other subparts of this part.* When provisions of another subpart of this part conflict with the provisions of this subpart, the provisions of the other subpart shall apply.

(i) *Equipment assignment procedures.* If specific items of equipment (pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, surge control vessels, and bottoms receivers) that are part of a process unit complying with this part are managed by different administrative organizations (for example, different companies, affiliates, departments, divisions, etc.), those items of equipment may be aggregated with any process unit within the plant site.

§ 65.2 Definitions.

All terms used in this part shall have the meaning given them in the Act and in this section. If a term is defined both in this section and in other parts that reference the use of this part, the term shall have the meaning given in this section for purposes of this part. If a term is not defined in the Act or in this section, the term shall have the meaning given in the referencing subpart for purposes of this part. The terms follow:

Act means the Clean Air Act (42 U.S.C. 7401 *et seq.*).

Administrator means the Administrator of the United States Environmental Protection Agency (EPA) or his or her authorized representative (for example, a State that has been delegated the authority to implement the provisions of this part).

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Automated continuous parameter monitoring system means a continuous parameter monitoring system that automatically both records the measured data and calculates hourly averages.

Automated monitoring and recording system means any means of measuring values of monitored parameters and creating a hard copy or computer record of the measured values that does not require manual reading of monitoring instruments and manual transcription of data values. Automated monitoring and recording systems include, but are not limited to, computerized systems, strip charts, and circular charts.

Batch process means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

Batch product-process equipment train means the collection of equipment (for example, connectors, reactors, valves, pumps) configured to produce a specific product or intermediate by a batch process.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator or a process heater. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

By compound means by individual stream components, not carbon equivalents.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (for example, from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Closed vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device. A closed vent system does not include the vapor collection system that is part of any tank truck or railcar or the loading arm or hose that is used for vapor return. For transfer racks, the closed vent system begins at, and includes, the first block valve on the downstream side of the loading arm or hose used to convey displaced vapors.

Closed vent system shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a closed vent system or part of a closed vent system consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a closed vent system shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the closed vent system or part of the closed vent system of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled closed vent system shutdown, is not a closed vent system shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not closed vent system shutdowns.

Closed-loop system means an enclosed system that returns process fluid to a process.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic emissions.

Compliance date means the date by which a regulated source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to the Act.

Connector means flanged, screwed, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined (for example, porcelain, glass, or glass-lined) as described in §65.108(e)(2).

Continuous parameter monitoring system or *CPMS* means the total equipment that may be required to meet the data acquisition and availability requirements of this part used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Continuous record means documentation, either in hard copy or computer-readable form, of data values measured at least once every 15 minutes and recorded at the frequency specified in §65.161(a).

Continuous seal means a seal that is designed to form a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

Control device means any combustion device, recovery device, or any combination of these devices used to comply with this part. Such equipment or devices include, but are not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For process vents (as defined in this section), recovery devices are not considered control devices except for the recovery devices specified in §65.63(a)(2)(ii). A fuel gas system is not a control device. For a steam stripper, a primary condenser is not considered a control device.

Control system means the combination of the closed vent system and the control devices used to collect and control vapors or gases from a regulated source.

Day means a calendar day.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Ductwork means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Emission point means an individual process vent, storage vessel, transfer rack, wastewater stream, or equipment leak.

Empty or emptying means the removal of the stored liquid from a storage vessel. Storage vessels where stored liquid is left on the walls, as bottom clingage, or in pools due to bottom irregularities are considered empty. Lowering of the stored liquid level, so that the floating roof is resting on its legs, as necessitated by normal vessel operation (for example, when changing stored material or when transferring material out of the vessel for shipment) is not considered emptying.

Equipment means each of the following that is subject to control under the referencing subpart: pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system; and any control devices or systems used to comply with subpart F of this part.

Equivalent method means any method of sampling and analyzing for an air pollutant that has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method under specified conditions.

External floating roof or *EFR* means a pontoon-type (noncontact) or double-deck-type (contact) roof that is designed to rest on the stored liquid surface in a storage vessel with no fixed roof.

Failure, EFR (referred to as EFR failure) is defined as any time the external floating roof's primary seal has holes, tears, or other openings in the shoe, seal fabric, or seal envelope; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the stored liquid surface from the atmosphere; or a slotted membrane has more than 10 percent open area.

Failure, internal floating roof type A (referred to as IFR type A failure) means any time, as determined during visual inspection through roof hatches, in which the internal floating roof is not resting on the surface of the stored liquid inside the storage vessel and is not resting on the leg supports; or there is stored liquid on the floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.

Failure, internal floating roof type B (referred to as IFR type B failure) means any time, as determined during internal inspections, the internal floating roof's primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the stored liquid surface from the atmosphere; or a slotted membrane has more than 10 percent open area.

Fill or *filling* means the introduction of liquids into a storage vessel, but not necessarily to complete capacity.

First attempt at repair, for the purposes of subparts F and G of this part, means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in §§65.104(b) and 65.143(c), as appropriate, to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Fixed roof means a roof that is mounted (for example, permanently affixed) on a storage vessel in a stationary manner and that does not move with fluctuations in stored liquid level.

Flame zone means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

Floating roof means a roof consisting of an external floating roof or an internal floating roof that is designed to rest upon and is supported by the stored liquid and is equipped with a continuous seal.

Flow indicator means a device that indicates whether gas flow is present in a line, or whether the valve position would allow gas flow to be present in a line.

Force majeure means, for purposes of §65.157, an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

Group 1 process vent means a process vent for which the flow rate is greater than or equal to 0.011 standard cubic meter per minute (0.39 cubic feet per minute); the total concentration is greater than or equal to the appropriate value in table 1 of subpart D of this part, and the total resource effectiveness index value, calculated according to §65.64(h) is less than or equal to 1.0.

Group 2A process vent means a process vent that is not Group 1 or Group 2B for which monitoring and recordkeeping are required to demonstrate a total resource effectiveness index value greater than 1.0.

Group 2B process vent means a process vent that is not Group 1 or Group 2A for which monitoring and recordkeeping are not required to demonstrate a total resource effectiveness index value greater than 4.0, or which is exempt from control requirements due to the vent stream's flow rate, regulated material concentration, or total resource effectiveness index value.

Halogenated vent stream or *halogenated stream* means, for purposes of this part, a vent stream determined to be halogenated by the procedures specified in §65.85(c) for transfer racks and in §65.64(g) for process vents, as applicable.

Halogens and hydrogen halides means hydrogen chloride (HCl), chlorine (Cl_2), hydrogen bromide (HBr), bromine (Br_2), and hydrogen fluoride (HF).

Hard-piping means pipe or tubing that is manufactured and installed using good engineering judgment and standards, such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007–2900).

High-throughput transfer racks means those transfer racks that transfer greater than or equal to a total of 11.8 million liters per year (3.12 million gallons per year) of liquid containing regulated material.

In food/medical service means that a piece of equipment in regulated material service contacts a process stream used to manufacture a Food and Drug Administration-regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

(1) A dilution of product quality so that the product would not meet written specifications;

(2) An exothermic reaction that is a safety hazard;

(3) The intended reaction to be slowed down or stopped; or

(4) An undesired side reaction to occur.

In gas/vapor service means that a piece of equipment in regulated material service contains a gas or vapor when in operation.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas/vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C (0.04 pounds per square inch at 68 °F);

(2) The total concentration of the pure organic compound constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C (0.04 pounds per square inch at 68 °F) is equal to or greater than 20 percent by weight of the total process stream; and

(3) The fluid is a liquid at operating conditions. (Note: Vapor pressures may be determined by standard reference texts or American Society for Testing and Materials (ASTM) D–2879, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.)

In liquid service means that a piece of equipment in regulated material service is not in gas/vapor service.

In regulated material service means, for the purposes of the equipment leak provisions of subpart F of this part, equipment which meets the definition of “in volatile organic compound service,” “in volatile hazardous air pollutant service,” “in benzene service,” “in vinyl chloride service,” or “in organic hazardous air pollutant service” as defined in the referencing subpart.

In vacuum service means that equipment is operating at an internal pressure that is at least 5 kilopascals (0.7 pounds per square inch) below ambient pressure.

In-situ sampling systems means nonextractive samplers or in-line samplers.

Incinerator means an enclosed combustion device that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures. Any energy recovery section present is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas.

This energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.

Initial startup means, for new or reconstructed sources, the first time the source begins production. For additions or changes not defined as a new source by an applicable referencing subpart, initial startup means the first time additional or changed equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent startup (as defined in this section) of process units following malfunctions or process unit shutdowns. Except for equipment leaks, initial startup also does not include subsequent startups (as defined in this section) of process units following changes in product for flexible operation units or following recharging of equipment in batch operation.

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (for example, composition, pressure, flow). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller in diameter and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of subpart F of this part.

Intermediate change to monitoring means a modification to federally required monitoring involving “proven technology” (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, an intermediate change may set a national precedent for a source category and may ultimately result in a revision to the federally required monitoring. Examples of intermediate changes to monitoring include, but are not limited to:

(1) Use of a continuous monitoring system (CEMS) in lieu of a parameter monitoring approach;

(2) Decreased frequency for non-continuous parameter monitoring or physical inspections;

(3) Changes to quality control requirements for parameter monitoring; and

(4) Use of an electronic data reduction system in lieu of manual data reduction.

Intermediate change to test method means a within-method modification to a federally enforceable test method involving “proven technology” (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, an intermediate change may set a national precedent for a source category and may ultimately result in a revision to the federally enforceable test method. In order to be approved, an intermediate change must be validated according to EPA Method 301 (40 CFR part 63, appendix A) to demonstrate that it provides equal or improved accuracy or precision. Examples of intermediate changes to a test method include, but are not limited to:

(1) Modifications to a test method's sampling procedure including substitution of sampling equipment that has been demonstrated for a particular sample matrix; and use of a different impinger absorbing solution;

(2) Changes in sample recovery procedures and analytical techniques, such as changes to sample holding times and use of a different analytical finish with proven capability for the analyte of interest; and

(3) “Combining” a federally required method with another proven method for application to processes emitting multiple pollutants.

Internal floating roof or *IFR* means a pontoon-type (noncontact) or double-deck-type (contact) roof that is designed to rest or float on the stored liquid surface inside a storage vessel that has a fixed roof.

Liquid-mounted seal means a foam-or liquid-filled continuous seal mounted in contact with the stored liquid.

Liquids dripping means any visible leakage from a seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquids dripping include puddling or new stains that are indicative of an existing evaporated drip.

Loading cycle means the time period from the beginning of filling a tank truck or railcar until flow to the control device ceases as determined by the flow indicator.

Low-throughput transfer racks means those transfer racks that transfer less than a total of 11.8 million liters per year (3.12 million gallons per year) of liquid containing regulated material.

Major change to monitoring means a modification to federally required monitoring that uses “unproven technology or procedures” (not generally accepted by the scientific community) or is an entirely new method (sometimes necessary when the required monitoring is unsuitable). A major change to monitoring may be site-specific or may apply to one or more source categories and will almost always set a national precedent. Examples of major changes to monitoring include, but are not limited to:

(1) Use of a new monitoring approach developed to apply to a control technology not contemplated in the applicable regulation in this part;

(2) Use of a predictive emission monitoring system (PEMS) in place of a required continuous emission monitoring system (CEMS);

(3) Use of alternative calibration procedures that do not involve calibration gases or test cells;

(4) Use of an analytical technology that differs from that specified by a performance specification;

(5) Decreased monitoring frequency for a continuous emission monitoring system, continuous opacity monitoring system, predictive emission monitoring system, or continuous parameter monitoring system;

(6) Decreased monitoring frequency for a leak detection and repair program; and

(7) Use of alternative averaging times for reporting purposes.

Major change to test method means a modification to a federally enforceable test method that uses “unproven technology or procedures” (not generally accepted by the scientific community) or is an entirely new method (sometimes necessary when the required test method is unsuitable). A major change to a test method may be site-specific or may apply to one or more source categories and will almost always set a national precedent. In order to be approved, a major change must be validated according to EPA Method 301 (40 CFR part 63, appendix A). Examples of major changes to a test method include, but are not limited to:

(1) Use of an unproven analytical finish;

(2) Use of a method developed to fill a test method gap;

(3) Use of a new test method developed to apply to a control technology not contemplated in the applicable regulation in this part; and

(4) Combining two or more sampling/analytical methods (at least one unproven) into one for application to processes emitting multiple pollutants.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. Malfunctions that do not affect a regulated source or compliance with this part are not malfunctions for purposes of this part.

Metallic shoe seal or *mechanical shoe seal* means metal sheets that are held vertically against the wall of the storage vessel by springs, weighted levers, or other mechanisms and connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

Minor change to monitoring means:

(1) A modification to federally required monitoring that:

(i) Does not decrease the stringency of the compliance and enforcement measures of the relevant standard;

(ii) Has no national significance (e.g., does not affect implementation of the applicable regulation in this part for other affected sources, does not set a national precedent, and individually does not result in a revision to the monitoring requirements); and

(iii) Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source.

(2) Examples of minor changes to monitoring include, but are not limited to:

(i) Modifications to a sampling procedure, such as use of an improved sample conditioning system to reduce maintenance requirements;

(ii) Increased monitoring frequency; and

(iii) Modification of the environmental shelter to moderate temperature fluctuation and thus protect the analytical instrumentation.

Minor change to test method means:

(1) A modification to a federally enforceable test method that:

(i) Does not decrease the stringency of the emission limitation or standard;

(ii) Has no national significance (e.g., does not affect implementation of the applicable regulation in this part for other affected sources, does not set a national precedent, and individually does not result in a revision to the test method); and

(iii) Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source.

(2) Examples of minor changes to a test method include, but are not limited to:

(i) Field adjustments in a test method's sampling procedure, such as a modified sampling traverse or location to avoid interference from an obstruction in the stack, increasing the sampling time or volume, use of additional impingers for a high moisture situation, accepting particulate emission results for a test run that was conducted with a lower than specified temperature, substitution of a material in the sampling train that has been demonstrated to be more inert for the sample matrix; and

(ii) Changes in recovery and analytical techniques such as a change in quality control/quality assurance requirements needed to adjust for analysis of a certain sample matrix.

Nonautomated monitoring and recording system means manual reading of values measured by monitoring instruments and manual transcription of those values to create a record. Nonautomated systems do not include strip charts nor circular charts.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit shutdown.

One-hour period means the 60-minute period commencing on the hour.

Onsite or *on-site* means, with respect to records required to be maintained by this part, that the records are stored at a location within a plant site that encompasses the regulated source. Onsite includes, but is not limited to, storage at the regulated source to which the records pertain, or storage in central files elsewhere at the plant site.

Open-ended valve or line means any valve except relief valves having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Organic monitoring device means a device used to indicate the concentration level of organic compounds based on a detection principle such as infrared, photo ionization, or thermal conductivity.

Owner or operator means any person who owns, leases, operates, controls, or supervises a regulated source or a stationary source of which a regulated source is a part.

Part 70 permit means any permit issued, renewed, or revised pursuant to part 70 of this chapter.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in part 71 of this chapter.

Permitting authority means one of the following:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661) and part 71 of this chapter.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Polymerizing monomer means, for the purposes of this part, a compound which may form polymer buildup in pump mechanical seals resulting in rapid mechanical seal failure.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the relief device. This release can be one release or a series of releases over a short time period.

Pressure relief device or valve means a device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

Primary fuel means the fuel that provides the principal heat input to the device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process heater means an enclosed combustion device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water. A process heater may, as a secondary function, heat water in unfired heat recovery sections.

Process unit means the equipment specified in the definitions of process unit or chemical manufacturing process unit in the applicable referencing subpart. If the referencing subpart does not define process unit, then, for the purposes of this part, process unit means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

Process vent means a process vent or vent stream as they are defined in the referencing subpart.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (*i.e.,* net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse or sale, are not recovery devices but are control devices. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units.

Reference method means any method of sampling and analyzing for an air pollutant as specified in an applicable subpart, the appendices to 40 CFR part 60 or 63, or in appendix B of 40 CFR part 61.

Referencing subpart means 40 CFR part 60, subparts Ka, Kb, VV, DDD, III, NNN, and RRR; 40 CFR part 61, subparts V, Y, and BB; and 40 CFR part 63, subparts G and H.

Regulated material means, for the purposes of this part, the material regulated by the specific referencing subpart, including volatile organic liquids (VOL), volatile organic compounds (VOC), organic hazardous air pollutants (HAP's), benzene, vinyl chloride, or other chemicals or groups of chemicals.

Regulated source means, for the purposes of this part, the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a relevant standard or other requirement established pursuant to this part, or 40 CFR part 60, 61, or 63.

Relief device or valve means a device or valve used only to release an unplanned, nonroutine discharge. A relief device or valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Repaired means, for the purposes of subparts F and G of this part, that equipment meets the following conditions:

(1) Is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable section of this part; and

(2) Unless otherwise specified in applicable provisions of this part, is monitored as specified in §§65.104(b) and 65.143(c) to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the emissions are conveyed to any enclosed portion of a process unit where the emissions are predominantly recycled and/or consumed in the same manner as a material that fulfills

the same function in the process and/or transformed by chemical reaction into materials that are not regulated materials and/or incorporated into a product; and/or recovered.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Secondary fuel means a fuel fired through a burner other than the primary fuel burner that provides supplementary heat in addition to the heat provided by the primary fuel.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means, for the purposes of subparts F and G of this part, the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Shutdown means the cessation of operation of a regulated source (for example, chemical manufacturing process unit or a reactor, air oxidation reactor, distillation unit) and equipment required or used to comply with this part, or the emptying and degassing of a storage vessel. Shutdown is defined here for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair. Shutdown does not include the routine rinsing or washing of equipment in batch operation between batches.

Simultaneous loading means, for a shared control device, loading of regulated materials from more than one transfer arm at the same time so that the beginning and ending times of loading cycles coincide or overlap and there is no interruption in vapor flow to the shared control device.

Single-seal system means, for the purposes of subpart C of this part, a floating roof having one continuous seal. This seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Specific gravity monitoring device means a unit of equipment used to monitor specific gravity and having a minimum accuracy of ±0.02 specific gravity units.

Startup means the setting into operation of a regulated source (for example, chemical manufacturing process unit or a reactor, air oxidation reactor, distillation unit, a storage vessel after emptying and degassing) and/or equipment required or used to comply with this part. Startup includes initial startup, operation solely for testing equipment, the recharging of equipment in batch operation, and transitional conditions due to changes in product for flexible operation units.

State means all non-Federal authorities, including local agencies, interstate associations, and statewide programs, that have delegated authority to implement the provisions of this part; the referencing subparts; and/or the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Steam jet ejector means a steam nozzle that discharges a high-velocity jet across a suction chamber that is connected to the equipment to be evacuated.

Stuffing box pressure means the fluid (liquid or gas) pressure inside the casing or housing of a piece of equipment, on the process side of the inboard seal.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a process unit (as defined in the specific subpart that references this part) when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Temperature monitoring device means a unit of equipment used to monitor temperature and having a minimum accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±1.2 degrees Celsius (°C), whichever is greater.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established under 40 CFR part 70 or 71 to implement title V of the Act (42 U.S.C. 7661).

Total organic compounds or *TOC* means those compounds measured according to the procedures specified in §§65.64(c) and 65.158(b)(3)(ii)(A), as applicable. Those compounds that the Administrator has determined do not contribute appreciably to the formation of ozone and that are specifically excluded from the definition of volatile organic compound at 40 CFR 51.100(s), as amended, are to be excluded for the purposes of measuring the hourly emission rate as required in §65.64(f) for process vents subject to subpart III, NNN, or RRR of part 60 of this chapter.

Total resource effectiveness index value or *TRE index value* means a calculated value used to determine whether control is required for a process vent. It is based on process vent flow rate, emission rate of regulated material, net heating value, and corrosion properties (halogenated compound content), as quantified by the equations given under §65.64(h).

Vapor balancing system means a piping system that is designed to collect regulated material vapors displaced from tank trucks or railcars during loading and to route the collected regulated material vapors to the storage vessel from which the liquid being loaded originated, or to another storage vessel connected by a common header; or to compress and route to a process or a fuel gas system the collected regulated material vapors.

Vapor-mounted seal means a continuous seal that is mounted so that there is a vapor space between the stored liquid and the bottom of the seal.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

[65 FR 78285, Dec. 14, 2000, as amended at 71 FR 20471, Apr. 20, 2006; 72 FR 48942, Aug. 27, 2007]

§ 65.3 Compliance with standards and operation and maintenance requirements.

(a) *Requirements.* (1) Except as provided in paragraph (a)(2) of this section, the emission standards and established parameter ranges of this part shall apply at all times except during periods of startup, shutdown (as defined in §65.2), malfunction, or nonoperation of the regulated source (or specific portion thereof) resulting in cessation of the emissions to which this part applies. However, if a startup, shutdown, malfunction, or period of nonoperation of one portion of a regulated source does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this part during the startup, shutdown, malfunction, or period of nonoperation. For example, if there is an over pressure in the reactor area, a storage vessel in a chemical manufacturing process unit would still be required to be controlled in accordance with subpart C of this part. Similarly, the degassing of a storage vessel would not affect the ability of a process vent to meet the requirements of subpart D or G of this part.

(3) During startups, shutdowns, and malfunctions when the emission standards of this part do not apply pursuant to paragraphs (a)(1) and (2) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this part. The measures to be taken may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the regulated source. Backup control devices are not required but may be used if available. This paragraph (a)(3) does not apply to Group 2A or Group 2B process vents.

(4) Malfunctions shall be corrected as soon as practical after their occurrence. This paragraph (a)(4) does not apply to Group 2A or Group 2B process vents.

(5) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(b) *Compliance determination procedures* (3) *Operation and maintenance procedures.* Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan, if applicable, required in §65.6(a), as applicable), review of operation and maintenance records, inspection of the regulated source, and alternatives approved as specified in §65.7.

(c) *Finding of compliance.* The Administrator will make a finding concerning a regulated source's compliance with an emission standard, design standard, work practice, operational standard or operating and maintenance requirement as specified in paragraphs (a) and (b) of this section upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used. Standards in this part and methods of determining compliance are given in metric units followed by the equivalents in English units. The Administrator will make findings of compliance with the standards of this part using metric units.

(d) *Compliance times.* All terms that define a period of time for completion of required tasks (for example, weekly, monthly, quarterly, annually) unless specified otherwise in the section or paragraph that imposes the requirement refer to the standard calendar periods.

(1) Notwithstanding time periods specified for completion of required tasks, time periods may be changed by mutual agreement between the owner or operator and the Administrator as specified in §65.5(h)(3) (for example, a period could begin on the compliance date or another date, rather than on the first day of the standard calendar period). For each time period that is changed by agreement, the revised period applies until it is changed. A new request is not necessary for each recurring period.

(2) When the period specified for compliance is a standard calendar period, if the initial compliance date occurs after the beginning of the period, compliance shall be required according to the schedule specified in the following paragraphs, as appropriate:

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(3) In all instances where a provision requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during the specified period provided the task is conducted at a reasonable interval after completion of the task during the previous period.

[65 FR 78285, Dec. 14, 2000, as amended at 71 FR 20471, Apr. 20, 2006]

§ 65.4 Recordkeeping.

(a) *Maintaining notifications, records, and reports.* Except as provided in paragraph (b) of this section, the owner or operator of each regulated source subject to this part shall keep copies of notifications, reports, and records required by this part for the length of time specified in the following, as applicable:

(1) If an owner or operator is required to obtain or operate a regulated source under a title V permit, then all applicable notifications, reports, and records for that regulated source shall be maintained for at least 5 years, except for the records required in §65.47(b) for storage vessel capacity, §65.104(e)(2) for valve and connector monitoring, and §65.163(d)(1) for closed vent system design specifications.

(b) *Copies of reports.* If an owner or operator submits reports to the applicable EPA Regional Office, the owner or operator is not required to maintain copies of those reports. If the EPA Regional Office has waived the requirement of §65.5(g)(1) for submittal of copies of reports, the owner or operator is not required to maintain copies of the waived

reports. Paragraph (b) of this section applies only to reports and not the underlying records which must be maintained as specified throughout this part.

(c) *Availability of records.* All applicable records shall be maintained in such a manner that they can be readily accessed and are suitable for inspection as specified in the following:

(1) Except as specified in paragraph (c)(2) of this section, records of the most recent 2 years shall be retained onsite or shall be accessible to an inspector while onsite. The records of the remaining 3 years, where required, may be retained offsite.

(3) Records specified in paragraph (c)(1) or (2) of this section may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

§ 65.5 Reporting requirements.

(a) *Required reports.* Each owner or operator of a regulated source subject to this subpart shall submit the following reports, as applicable:

(1) A Notification of Initial Startup described in paragraph (b) of this section.

(2) An Initial Notification for Part 65 Applicability described in paragraph (c) of this section.

(3) An Initial Compliance Status Report described in paragraph (d) of this section.

(4) Periodic reports described in paragraph (e) of this section.

(5) Other reports shall be submitted as specified elsewhere in this part.

(6) Startup, Shutdown, and Malfunction Reports described in §65.6(c).

(b) *Notification of Initial Startup* —(1) *Contents.* Any owner or operator of a regulated source which elects to comply with this part at initial startup shall send the Administrator written notification of the actual date of initial startup of a regulated source.

(2) *Due date.* The notification of the actual date of initial startup shall be postmarked within 15 days after such date.

(d) *Initial Compliance Status Report* —(1) *Contents.* The owner or operator shall submit an Initial Compliance Status Report for each regulated source subject to this part containing the information specified in the subparts of this part. Unless the required information has already been submitted under requirements of the applicable referencing subpart, this information can be submitted as part of a title V permit application or amendment.

(2) *Due date.* The owner or operator shall submit the Initial Compliance Status Report for each regulated source within 240 days after the applicable compliance date specified in the referencing subparts, or within 60 days after the completion of the initial performance test or initial compliance determination, whichever is earlier. Initial compliance Status Reports may be combined for multiple regulated sources as long as the due date requirements for all sources covered in the combined report are met.

(e) *Periodic reports.* The owner or operator of a source subject to monitoring requirements of this part or to other requirements of this part where periodic reporting is specified, shall submit a periodic report.

(1) *Contents.* Periodic reports shall include all information specified in subparts of this part.

(2) *Due date.* The periodic report shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted as specified in the following, as applicable:

(i) The first report shall be submitted no later than the last day of the month that includes the date 8 months after the date the source became subject to this part or since the last part 60, 61, or 63 periodic report was submitted for the applicable requirement, whichever is earlier.

(ii) For sources electing to comply with the CAR at initial startup, the first report shall cover the 6 months after the Initial Compliance Status Report is due. The first report shall be submitted no later than the last day of the month that includes the date 8 months after the Initial Compliance Status Report is due.

(3) *Overlap with title V reports.* Information required by this part, which is submitted with a title V periodic report, need not also be included in a subsequent periodic report required by this part. The title V report shall be referenced in the periodic report required by this part.

(f) *General report content.* All reports and notifications submitted pursuant to this part, including reports that combine information from this part and a referencing subpart, shall include the following information:

(1) The name, address, and telephone number (fax number may also be provided) of the owner or operator.

(2) The name, address and telephone number of the person to whom inquiries should be addressed, if different than the owner/operator.

(3) The address (physical location) of the reporting facility.

(4) Identification of each regulated source covered in the submission and identification of which subparts (referencing subparts and this part 65) options from this part are applicable to that regulated source. Summaries and groupings of this information are permitted.

(g) *Report and notification submission* —(1) *Submission.* All reports and notifications required under this part shall be sent to the Administrator at the appropriate EPA Regional Office and to the delegated State authority, except that requests for permission to use an alternative means of emission limitation as provided for in §65.8(a) shall be submitted to the Director of the EPA Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, MD–10, Research Triangle Park, North Carolina, 27711. The EPA Regional Office may waive the requirement to receive a copy of any reports or notifications at its discretion.

(2) *Submission of copies.* If any State requires a notice that contains all the information required in a report or notification listed in this part, an owner or operator may send the appropriate EPA Regional Office a copy of the report or notification sent to the State to satisfy the requirements of this part for that report or notification.

(3) *Method of submission.* Wherever this subpart specifies “postmark” dates, submittals may be sent by methods other than the U.S. Mail (for example, by fax or courier). Submittals shall be sent on or before the specified date.

(4) *Submission by electronic media.* If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(h) *Adjustment to timing of submittals and review of required communications* —(1) *Alignment with title V submission.* An owner or operator may submit periodic reports required by this part on the same schedule as the title V periodic report for the facility. The owner or operator using this option need not obtain prior approval, but must assure no reporting gaps from the last periodic report for the relevant standards. The owner or operator shall clearly identify the change in reporting schedule in the first report filed under paragraph (h) of this section. The requirements of paragraph (e) of this section are not waived when implementing this change.

(2) *Request for adjustment.* An owner or operator may arrange by mutual agreement (which may be a standing agreement) with the Administrator a common schedule on which periodic reports required by this part shall be submitted throughout the year as long as the reporting period is not extended. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practical before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is

warranted. A request for a change to the periodic reporting schedule need only be made once for every schedule change and not once for every semiannual report submitted.

(3) *Approval of request for adjustment.* If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) *Notification of delay.* If the Administrator is unable to meet a specified deadline, the owner or operator will be notified of any significant delay and informed of the amended schedule.

(i) Unless already submitted in a previous report, an owner or operator shall report in a title V permit application or as otherwise specified by the permitting authority, the information listed in paragraphs (i)(1) through (5) of this section. This information shall be submitted to the Administrator if the regulated source is not a title V source.

(1) A list designating each emission point complying with subparts C through G of this part and whether each process vent is Group 1, Group 2A, or Group 2B.

(2) The control technology or method of compliance that will be applied to each emission point.

(3) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in subparts C through G of this part that are applicable to each emission point will be implemented beginning on the date of compliance as specified in the referencing subpart.

(4) The monitoring information in §65.162(e) if, for any emission point, the owner or operator of a source seeks to comply through use of a control technique other than those for which monitoring parameters are specified in §§65.148 through 65.154.

(5) Any requests for alternatives to the continuous operating parameter monitoring and recordkeeping provisions, as specified in §65.162(d).

§ 65.6 Startup, shutdown, and malfunction plan and procedures.

(a) Paragraphs (b) and (c) of this section do not apply to Group 2A or Group 2B process vents.

(b) *Startup, shutdown, and malfunction plan* —(1) *Description and purpose of plan.* The owner or operator of a regulated source shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the regulated source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. The plan shall also address routine or otherwise predictable CPMS malfunctions. This plan shall be developed by the owner or operator by the regulated source's implementation date as specified in §65.1(f), or for sources referenced from 40 CFR part 63, subpart F, by the compliance date specified in that subpart. The requirement to develop this plan shall be incorporated into the source's title V permit. This requirement is optional for equipment that must comply with subpart F of this part. It is not optional for equipment equipped with a closed vent system and control device subject to subpart G of this part. The purposes of the startup, shutdown, and malfunction plan are described in the following:

(i) To ensure that owners or operators are prepared to correct malfunctions as soon as practical after their occurrence in order to minimize excess emissions of regulated material (excess emissions are defined in §65.3(a)(4)); and

(ii) To reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(2) *Operation of source.* During periods of startup, shutdown, and malfunction, the owner or operator of a regulated source shall operate and maintain such source (including associated air pollution control equipment and CPMS) in accordance with §65.3(a). The general duty to minimize emissions during a period of startup, shutdown, or

malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (b)(1) of this section), review of operation and maintenance records, and inspection of the source.

(3) *Use of additional procedures.* To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the regulated source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

(4) *Revisions to the plan.* Based on the results of a determination made under §65.3(b)(3), the Administrator may require that an owner or operator of a regulated source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan is inadequate as specified in the following:

(i) Does not address a startup, shutdown, and malfunction event of the CPMS, the air pollution control equipment, or the regulated source that has occurred; or

(ii) Fails to provide for the operation of the regulated source (including associated air pollution control equipment and CPMS) during a startup, shutdown, and malfunction event in a manner consistent with good air pollution control practices for minimizing emissions to the extent practical; or

(iii) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable; or

(iv) Does not provide adequate measures to prevent or minimize excess emissions to the extent practical as specified and defined in §65.3(a)(4).

(5) *Additional malfunction plan requirements.* If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the regulated source during similar malfunction events, and a program of corrective action for similar malfunctions of process or air pollution control equipment or CPMS.

(6) *Retain plan on site.* The current plan must be kept on site at all times.

(c) *Periodic startup, shutdown, and malfunction reports.* During the reporting period, reports shall only be required for startup, shutdown, and malfunction during which excess emissions as defined in §65.3(a)(4) occur. A startup, shutdown, and malfunction report can be submitted as part of a periodic report required under §65.5(e), or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate), unless the information is submitted with the periodic report. The report shall include the following information, as appropriate:

(1) The name, title, and signature of the owner or operator or other responsible official certifying its accuracy.

(2) The number of startup, shutdown, malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period.

(3) If actions taken by an owner or operator during a startup, shutdown, and malfunction of a regulated source, or of a control device or monitoring system required for compliance (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, then the owner or operator shall state such information in a startup, shutdown, and malfunction report, and describe the actions taken.

Such description can take the form of a checklist; only one checklist is necessary if actions taken are the same for multiple events during the reporting period.

(4) If at any time an action taken by an owner or operator, during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) during which excess emissions occur, as defined in §65.3(a)(4), is not consistent with the procedures specified in the regulated source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event as part of the periodic report. The report shall explain the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

[65 FR 78285, Dec. 14, 2000, as amended at 71 FR 20471, Apr. 20, 2006]

§ 65.9 Availability of information and confidentiality.

(a) *Availability of information.* The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. With the exception of information protected under part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), initial compliance status report, periodic report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(b) *Confidentiality.* (1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

§ 65.10 State authority.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from adopting and enforcing any emission standard or limitation applicable to a regulated source, provided that such standard, limitation, prohibition, or other regulation is not less stringent than the standard applicable to such a regulated source.

(b) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from requiring the owner or operator of a regulated source to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such a regulated source.

§ 65.11 Circumvention and prohibited activities.

(a) *Circumvention.* (1) No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to, the following:

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere; and

(2) The fragmentation of an operation for the purpose of avoiding regulation by a relevant standard.

(b) *Prohibited activities.* (1) No owner or operator subject to the provisions of this part shall operate any regulated source in violation of the requirements of this part except under the following provisions:

(i) An extension or waiver of compliance granted by the Administrator under an applicable part; or

(ii) An extension of compliance granted under an applicable part by a State with an approved permit program; or

(iii) An exemption from compliance granted by the President under section 112(i)(4) of the Act.

(2) After the effective date of an approved permit program in a State, no owner or operator of a regulated source in that State who is required under an applicable part to obtain a title V permit shall operate such source except in compliance with the provisions of this part and the applicable requirements of the permit program in that State.

(3) An owner or operator of a regulated source who is subject to an emission standard promulgated under this part or a referencing part shall comply with the requirements of that standard by the date(s) established in the applicable subpart(s) (including this subpart) regardless of whether the following criteria are met:

(i) A title V permit has been issued to that source; or

(ii) If a title V permit has been issued to that source, whether such permit has been revised or modified to incorporate the emission standard.

(c) *Severability.* Notwithstanding any requirement incorporated into a title V permit obtained by an owner or operator subject to the provisions of this part, the provisions of this part are federally enforceable.

§ 65.12 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under sections 111(c) and 112(l) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities that will not be delegated to States: §§65.8, 65.46, 65.102, 65.156(b)(l)(ii), and 65.158(a)(2)(ii).

§ 65.13 Incorporation by reference.

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in theFederal Register.The materials are available for purchase at the corresponding addresses noted in paragraph (b) of this section, and all are available for inspection or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html* ; at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M Street, SW., Washington, DC; and at the EPA Library (MD–35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The materials listed in this paragraph (b) are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania 19103; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

(1) ASTM D1946–77, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved December 14, 2000 for §§65.64(e)(2) and 65.147(a)(4)(i) and (b)(3)(ii).

(2) ASTM D2382–76, Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method). IBR approved December 14, 2000 for §§65.64(e)(1) and 65.147(b)(3)(ii).

[65 FR 78285, Dec. 14, 2000, as amended at 69 FR 18803, Apr. 9, 2004]

§ 65.14 Addresses.

(a) All requests, reports, applications, notifications, and other communications submitted pursuant to this part, except as specified under §65.5(g)(1), shall be sent to the Administrator at the appropriate EPA Regional Office indicated in the following list:

Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air Management Division, U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604–3507.

(b) All information required to be submitted to the Administrator under this part shall also be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The mailing addresses for State agencies are listed as follows:

(14) *Indiana.* Indiana Department of Environmental Management, 105 South Meridian Street, P.O. Box 6015, Indianapolis, Indiana 46206.

Table 1 to Subpart A of Part 65—Applicable 40 CFR Parts 60, 61, and 63 General Provisions

A. 40 CFR part 60, subpart A provisions for referencing subparts Ka, Kb, VV, DDD, III, NNN, and RRR
§60.1,
§60.2,
§60.5,
§60.6,
§60.7(a)(1), and (a)(4),
§60.14,
§60.15,
§60.16
B. 40 CFR part 61, subpart A provisions for referencing subparts Y, V, and BB
§61.01,
§61.02,
§61.05,
§61.06,
§61.07,
§61.08,
§61.10(b), and (c),
§61.11, §61.15
C. 40 CFR part 63, subpart A provisions for referencing subparts G and H
§63.1(a)(1), (a)(2), (a)(3), (a)(13), (a)(14), (b)(2) and (c)(4)
§63.2
§63.5 (a)(1), (a)(2), (b), (d)(1)(ii), (d)(3)(i),[a](d)(3)(iii),[a](d)(3)(iv),[a](d)(3)(v),[a](d)(3)(vi),[a](d)(4), (e), (f)(1), and (f)(2)
§63.6 (a), (b)(3), (c)(5), (i)(1), (i)(2), (i)(4)(i)(A), (i)(5) through (i)(14), (i)(16) and (j)
§63.9(a)(2), (b)(4)(i),[b](b)(4)(ii), (b)(4)(iii), (b)(5),[b](c) and (d)
§63.10(d)(4)
§63.12(b)

[a]These provisions do not apply to equipment leaks.

[b]The notifications specified in 40 CFR 63.9(b)(4)(i) and 63.9(b)(5) shall be submitted at the times specified in this part 65.

Table 2 to Subpart A of Part 65—Applicable Referencing Subpart Provisions

If you have been referenced from * * *	You must comply with * * *
40 CFR part 60, subpart Ka	60.110a, 60.111a, and 60.115a
40 CFR part 60, subpart Kb	60.110b, 60.111b, 60.116b(c), (e), (f)(1), and (g)
40 CFR part 60, subpart VV	60.480, 60.481, 60.482–1(a), 60.485(d), (e), and (f), and 60.486(i) and (j), 60.488, and 60.489
40 CFR part 60, subpart DDD	60.560(a), (b) and (d) through (j), 60.561, 60.562–1, 60.562–2, and 60.565(g)(1)
40 CFR part 60, subpart III	60.610(a), (b) and (d), 60.611, 60.616, 60.617
40 CFR part 60, subpart NNN	60.660(a), (b), (c)(1) through (c)(3), (c)(5), (d), 60.661, 60.666, and 60.667
40 CFR part 60, subpart RRR	60.700(a), (b), (c)(1), (c)(3), (c)(5), (c)(6), (c)(7), (d), 60.701, 60.706, 60.707
40 CFR part 61, subpart V	61.240, 61.241, 61.245(d), 61.246(i) and (j), and 61.247(a) and (f)
40 CFR part 61, subpart Y	61.270, 61.271(d)(2), and 61.274(a)
40 CFR part 61, subpart BB	61.300 and 61.301
40 CFR part 63, subpart G For process vents, group 1 storage vessels, and group 1 transfer racks	63.100, 63.101, 63.104 and 63.105 of subpart F and 63.110 and 63.111 of subpart G
40 CFR part 63, subpart H	63.100, 63.101, 63.104 and 63.105 of subpart F, and 63.160, 63.161, 63.180(d) of subpart H

§ 65.60 Applicability.

The provisions of this subpart and of subpart A of this part apply to regulated material emissions from process vents where a referencing subpart references the use of this subpart.

§ 65.61 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in subpart A of this part. If a term is defined in both subpart A of this part and in other subparts that reference the use of this subpart, the term shall have the meaning given in subpart A of this part for purposes of this subpart.

§ 65.62 Process vent group determination.

(a) *Group status.* The owner or operator of a process vent shall determine the group status (i.e., Group 1, Group 2A, or Group 2B) for each process vent. Group 1 process vents require control, and Group 2A and 2B process vents do not. Group 2A process vents require parameter monitoring, and Group 2B process vents do not. The owner or operator shall report the group status of each process vent as specified in §65.5(c)(2).

(b) *Group 1.* A process vent is considered Group 1 if it meets at least one of the following specifications:

(1) The owner or operator designates the process vent as Group 1.

§ 65.63 Performance and group status change requirements.

(a) *Group 1 performance requirements.* Except for the additional requirement for halogenated vent streams as provided in paragraph (b) of this section, the owner or operator of a Group 1 process vent shall comply with the requirements of either paragraph (a)(1), (2), or (3) of this section.

(1) *Flare.* Reduce emissions of regulated material using a flare meeting the applicable requirements of §65.142(b).

(2) *98 percent or 20 parts per million standard.* Reduce emissions of regulated material or TOC by at least 98 weight-percent or to a concentration of less than 20 parts per million by volume, whichever is less stringent. For combustion devices, the emission reduction or concentration shall be calculated on a dry basis, and corrected to 3 percent oxygen. The owner or operator shall meet the requirements in §65.142(b) and paragraphs (a)(2)(i) and/or (a)(2)(ii) of this section.

(i) Compliance with paragraph (a)(2) of this section may be achieved by using any combination of recovery and/or control device to meet the 20 parts per million by volume concentration standard; or by using any combination of recovery and/or control device to meet the 98 weight percent reduction standard, if the recovery device meets the conditions of paragraph (a)(2)(ii) of this section.

(ii) An owner or operator may use a recovery device alone or in combination with one or more control devices to reduce emissions of total regulated material by 98 weight-percent if all of the following conditions are met:

(A) For process vents referenced to this part by 40 CFR part 63, subpart G, the recovery device (and any control device that operates in combination with the recovery device to reduce emissions of total regulated material by 98 weight-percent) was installed before December 31, 1992.

(B) The recovery device that will be used to reduce emissions of total regulated material by 98 weight-percent is the last recovery device before emission to the atmosphere.

(C) The recovery device alone or in combination with one or more control devices is capable of reducing emissions of total regulated material by 98 weight-percent but is not capable of reliably reducing emissions of total regulated material to a concentration of 20 parts per million by volume.

(D) If the owner or operator disposed of the recovered material, the recovery device would be considered a control device and comply with the requirements of this subpart and §65.142(b) for control devices.

Subpart G—Closed Vent Systems, Control Devices, and Routing to a Fuel Gas System or a Process

§ 65.140 Applicability.

The provisions of this subpart and of subpart A of this part (including the startup, shutdown, and malfunction provisions in §65.6) apply to routing emissions to processes, fuel gas systems, closed vent systems, control devices, and recovery devices where another subpart expressly references the use of this subpart.

§ 65.141 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in subpart A of this part. If a term is defined in both subpart A of this part and in other subparts that reference the use of this subpart, the term shall have the meaning given in subpart A of this part for purposes of this subpart.

§ 65.142 Standards.

(b) *Process vent requirements.* The owner or operator expressly referenced to this subpart from subpart D of this part or 40 CFR part 60, subpart DDD, shall comply with the following requirements, as applicable:

(1) *Flare.* Owners or operators subject to §65.63(a)(1) or 40 CFR 60.562–1(a)(1)(i)(C) who route process vent emissions to a flare shall meet the applicable requirements in §65.143 for closed vent systems; §65.147 for flares; and §65.157(a), (b), and (c) for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to process vent emissions routed through a closed vent system to a flare.

(2) *Nonflare control device.* Owners or operators subject to §65.63(a)(2) or 40 CFR 60.562–1(a)(1)(i)(A) or (B) who route process vent emissions to a nonflare control device shall meet the applicable requirements in §65.143 for closed vent systems; the requirements applicable to the control devices being used in §§65.148 through 65.152 or §65.155; the applicable general monitoring requirements of §65.156; the applicable performance test requirements and procedures of §§65.157 and 65.158; and the monitoring, recordkeeping, and reporting requirements referenced therein. Owners or operators subject to the halogen reduction device requirements of §65.63(b)(1) must also comply with §65.154 and the monitoring, recordkeeping, and reporting requirements referenced therein. The requirements of §§65.144 through 65.146 do not apply to process vents. No other provisions of this subpart apply to process vent emissions routed through a closed vent system to a nonflare control device.

§ 65.143 Closed vent systems.

(a) *Closed vent system equipment and operating requirements.* The provisions of paragraph (a) of this section apply to closed vent systems collecting regulated material from a storage vessel, process vent, transfer rack, or equipment leaks.

(1) *Collection of emissions.* Each closed vent system shall be designed and operated to collect the regulated material vapors from the emission point and to route the collected vapors to a control device.

(2) *Period of operation.* Closed vent systems used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(3) *Bypass monitoring.* Except for pressure relief devices needed for safety purposes, low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines, the owner or operator shall comply with either of the following provisions for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere:

(i) Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in §65.163(a)(1)(i). The flow indicator shall be installed at the entrance to any bypass line.

(ii) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line. Records shall be generated as specified in §65.163(a)(1)(ii).

§ 65.147 Flares.

(a) *Flare equipment and operating requirements.* Flares subject to this subpart shall meet the performance requirements of paragraphs (a)(1) through (7) of this section.

(1) Flares shall be operated at all times when emissions are vented to them.

(2) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (b)(3)(i) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(3) Flares shall be operated with a flare flame or at least one pilot flame present at all times, as determined by the methods specified in paragraph (c) of this section.

(4) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (a)(4)(ii) of this section and the maximum tip velocity specifications in paragraph (a)(6) of this section, or adhering to the requirements in paragraph (a)(4)(i) of this section.

(i)(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by Equation 147–1 of this section:

Where:

V_{max}= Maximum permitted velocity, m/sec.

K_1= Constant, 6.0 volume-percent hydrogen.

K_2= Constant, 3.9 (m/sec)/volume-percent hydrogen.

X_{H2}= The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946–77 (incorporated by reference as specified in §65.13).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(3)(iii) of this section.

(ii) Flares shall be used only when the net heating value of the gas being combusted is 11.2 megajoules per standard cubic meter (300 British thermal units per standard cubic foot) or greater if the flare is steam-assisted or air-assisted, or when the net heating value of the gas being combusted is 7.45 megajoules per standard cubic meter (200 British thermal units per standard cubic foot) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (b)(3)(ii) of this section.

(5) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(6) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section, less than 18.3 meters per second (60 feet per sec) except as provided in the following two paragraphs, as applicable:

(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section, equal to or less than 122 meters per second (400 feet per second) if the net heating value of the gas being combusted is greater than 37.3 megajoules per standard cubic meter (1,000 British thermal units per standard cubic foot).

(ii) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section, less than the velocity, V max, and less than 122 meters per second (400 feet per sec), where the maximum permitted velocity, V_{max}, is determined by Equation 147–2 of this section:

Where:

V_{max}= Maximum permitted velocity, meters per second.

28.8 = Constant.

31.7 = Constant.

H_T= The net heating value as determined in paragraph (b)(3)(ii) of this section.

(7) Air-assisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section, less than the velocity, V_{max}, where the maximum permitted velocity, V_{max}, is determined by Equation 147–3 of this section:

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Where:

V_{max}= Maximum permitted velocity, meters per second.

8.706 = Constant.

0.7084 = Constant.

H_T= The net heating value as determined in paragraph (b)(3)(ii) of this section.

(b) *Flare compliance determination.* (1) Unless an initial flare compliance determination of the flare was previously conducted and submitted under the referencing subpart, the owner or operator shall conduct an initial flare compliance determination of any flare used to comply with the provisions of this subpart. Flare compliance determination records shall be kept as specified in §65.159(a) and (b) and a flare compliance determination report shall be submitted as specified in §65.164. An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet regulated material or TOC concentration when a flare is used.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a flare to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in §65.167(a). Upon implementing the change, a flare compliance determination shall be performed using the methods specified in paragraph (b)(3) of this section within 180 days. The compliance determination report shall be submitted to the Administrator within 60 days of completing the determination as provided in §65.164(b)(2). If an owner or operator elects to use a flare to replace an existing final recovery device that is used on a Group 2A process vent, the owner or operator shall comply with the applicable provisions of §§65.63(e) and 65.67(b) and submit the notification specified in §65.167(a).

(3) Flare compliance determinations shall meet the requirements specified in paragraphs (b)(3)(i) through (iv) of this section.

(i) Method 22 of appendix A of part 60 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours, except for transfer racks as provided in either one of the following:

(A) For transfer racks, if the loading cycle is less than 2 hours, then the observation period for that run shall be for the entire loading cycle.

(B) For transfer racks, if additional loading cycles are initiated within the 2-hour period, then visible emissions observations shall be conducted for the additional cycles.

(ii) The net heating value of the gas being combusted in a flare shall be calculated using Equation 147–4 of this section:

Where:

H_T= Net heating value of the sample, megajoules per standard cubic meter; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 millimeters of mercury (30 inches of mercury), but the standard temperature for determining the volume corresponding to 1 mole is 20 °C;

K_1= 1.740×10^{-7}(parts per million by volume)$^{-1}$(gram-mole per standard cubic meter) (megajoules per kilocalories), where the standard temperature for gram mole per standard cubic meter is 20 °C;

D_j= Concentration of sample component j, in parts per million by volume on a wet basis, as measured for organics by Method 18 of appendix A of 40 CFR part 60 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946–77 (incorporated by reference as specified in §65.13); and

H_j= Net heat of combustion of sample component j, kilocalories per gram-mole at 25 °C and 760 millimeters of mercury (30 inches of mercury). The heats of combustion of stream components may be determined using ASTM D2382–76 (incorporated by reference as specified in §65.13) if published values are not available or cannot be calculated.

(iii) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Method 2, 2A, 2C, or 2D of appendix A of 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(iv) Flare flame or pilot monitors, as applicable, shall be operated during any flare compliance determination.

(c) *Flare monitoring requirements.* Where a flare is used, a device (including but not limited to a thermocouple, ultraviolet beam sensor, or infrared sensor) capable of continuously detecting that at least one pilot flame or the flare flame is present is required. Flame monitoring and compliance records shall be kept as specified in §65.159(c) and (d).

§ 65.149 Boilers and process heaters.

(b) *Boiler and process heater performance test requirements.*

(2) An owner or operator is not required to conduct a performance test when any of the control devices specified in paragraphs (b)(2)(i) through (iii) of this section are used. The owner or operator shall report as specified in §65.165(f).

(ii) A boiler or process heater into which the vent stream is introduced with the primary fuel or is used as the primary fuel.

§ 65.157 Performance test and flare compliance determination requirements.

(a) *Performance tests and flare compliance determinations.* Where §§65.145 through 65.155 require, or the owner or operator elects to conduct, a performance test of a nonflare control device or a halogen reduction device, or a compliance determination for a flare, the requirements of paragraphs (b) through (d) of this section apply.

(b) *Prior test results and waivers.* Initial performance tests and initial flare compliance determinations are required only as specified in this subpart.

(1) Unless requested by the Administrator, an owner or operator is not required to conduct a performance test or flare compliance determination under this subpart if a prior performance test or compliance determination was conducted using the same methods specified in §65.158, and either no process changes have been made since the test or the

owner or operator can demonstrate to the Administrator's satisfaction that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(2) Individual performance tests and flare compliance determinations may be waived upon written application to the Administrator per §65.164(b)(3) if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance under 40 CFR part 63, or a waiver of compliance under 40 CFR part 61, or the owner or operator has requested an extension of compliance under 40 CFR part 63, or a waiver of compliance under 40 CFR part 61, and the Administrator is still considering that request.

(3) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notification is given to the owner or operator of the source.

(c) *Performance tests and flare compliance determinations schedule.* Except as specified in paragraphs (c)(1)(viii), (c)(1)(ix), (c)(1)(x), and (c)(1)(xi) of this section, unless a waiver of performance testing or flare compliance determination is obtained under this section or the conditions of another subpart of this part, the owner or operator shall perform such tests specified in the following:

(1) Unless a waiver of performance testing or flare compliance determination is obtained under this section or the conditions of another subpart of this part, the owner or operator shall perform such tests specified in the following:

(i) Within 180 days after the effective date of a relevant standard for a new source that has an initial startup date before the effective date of that standard; or

(ii) Within 180 days after initial startup for a new source that has an initial startup date after the effective date of a relevant standard; or

(iii) Within 180 days after the compliance date specified in a referencing subpart for an existing source or within 180 days after startup of an existing source if the source begins operation after the effective date of the relevant 40 CFR part 63 emission standard; or

(iv) Within 180 days after the compliance date for an existing source subject to an emission standard established pursuant to section 112(f) of the Act; or

(v) Within 180 days after the termination date of the source's extension of compliance or a waiver of compliance for an existing source that obtains an extension of compliance under 40 CFR 63.6(i) or a waiver of compliance under 40 CFR 61.11; or

(vi) Within 180 days after the compliance date for a new source, subject to an emission standard established pursuant to section 112(f) of the Act, for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of the relevant standard established pursuant to section 112(f) of the Act (see 40 CFR 63.6(b)(4)); or

(vii) When a promulgated emission standard under 40 CFR part 63 is more stringent than the standard that was proposed (see 40 CFR 63.6(b)(3)), the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance initially with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(viii) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline, but the notification must occur before the

performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

(ix) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(x) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(xi) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (c)(1)(viii), (c)(1)(ix), and (c)(1)(x) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(2) The Administrator may require an owner or operator to conduct performance tests and compliance determinations at the regulated source at any time when the action is authorized by section 114 of the Act.

[65 FR 78285, Dec. 14, 2000, as amended at 72 FR 48942, Aug. 27, 2007; 72 FR 73626, Dec. 28, 2007]

§ 65.159 Flare compliance determination and monitoring records.

(a) *Conditions of flare compliance determination records.* Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of flare compliance determinations performed pursuant to §65.147(b).

(b) *Flare compliance determination records.* When using a flare to comply with this subpart, record the following information for each flare compliance determination performed pursuant to §65.147(b):

(1) Flare design (*i.e.,* steam-assisted, air-assisted, or nonassisted);

(2) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the flare compliance determination; and

(3) All periods during the flare compliance determination when all pilot flames are absent or, if only the flare flame is monitored, all periods when the flare flame is absent.

(c) *Monitoring records.* Each owner or operator shall keep up to date and readily accessible hourly records of whether the flare flame or pilot flame monitors are continuously operating during the hour and whether the flare flame or at least one pilot flame is continuously present during the hour. For transfer racks, hourly records are required only while the transfer vent stream is being vented.

(d) *Compliance records.* (1) Each owner or operator shall keep records of the times and duration of all periods during which the flare flame and all the pilot flames are absent. This record shall be submitted in the periodic reports as specified in §65.166(c).

(2) Each owner or operator shall keep records of the times and durations of all periods during which the flare flame or pilot flame monitors are not operating.

§ 65.163 Other records.

(a) *Closed vent system records.* For closed vent systems, the owner or operator shall record the following information, as applicable:

(1) For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (a)(1)(i) or (ii) of this section, as applicable. The information shall be reported as specified in §65.166(b).

(i) Hourly records of whether the flow indicator specified under §65.143(a)(3)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with §65.143(a)(3)(ii), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has been broken.

(2) For closed vent systems collecting regulated material from a storage vessel, transfer rack, or equipment leak, the owner or operator shall record the identification of all parts of the closed vent system that are designated as unsafe or difficult-to-inspect pursuant to §65.143(b)(2) or (3), an explanation of why the equipment is unsafe or difficult-to-inspect, and the plan for inspecting the equipment as required by §65.143(b)(2)(ii) or (b)(3)(ii).

(c) *Regulated source and control equipment startup, shutdown and malfunction records.* (1) Records of the occurrence and duration of each startup, shutdown, and malfunction of process equipment or of air pollution control equipment used to comply with this part during which excess emissions (as defined in §65.3(a)(4)) occur.

(2) For each startup, shutdown, and malfunction during which excess emissions occur, records whether the procedures specified in the source's startup, shutdown, and malfunction plan were followed, and a description of actions taken to minimize emissions. For example, if a startup, shutdown, and malfunction plan includes procedures for routing control device emissions to a backup control device (for example, the incinerator for a halogenated stream could be routed to a flare during periods when the primary control device is out of service), records must be kept of whether the plan was followed. These records may take the form of a checklist or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

[65 FR 78285, Dec. 14, 2000, as amended at 71 FR 20472, Apr. 20, 2006]

§ 65.164 Performance test and flare compliance determination notifications and reports.

(a) *Performance test and flare compliance determination reports.* Performance test reports and flare compliance determination reports shall be submitted as specified in paragraphs (a)(1) through (3) of this section.

(1) For performance tests or flare compliance determinations, the Initial Compliance Status Report or report required by paragraph (b)(2) of this section shall include one complete test report as specified in paragraph (a)(2) of this section for each test method used for a particular kind of emission point, and other applicable information specified in paragraph (a)(3) of this section. For additional tests performed for the same kind of emission point using the same method, the results and any other information required in applicable sections of this subpart or in other subparts of this part shall be submitted, but a complete test report is not required.

(2) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(3) The performance test or flare compliance determination report shall also include the following information, as applicable:

(i) For flare compliance determinations, the owner or operator shall submit the records specified in §65.159(b).

(ii) For nonflare combustion device and halogen reduction device performance tests as required under §65.148(b), §65.149(b), §65.150(b), §65.151(b), §65.152(b), §65.154(b), or §65.155(b), the owner or operator shall submit the applicable records specified in §65.160(b).

(iii) For Group 2A process vents, the owner or operator shall submit the records specified in §65.160(c), as applicable.

(b) *Other notifications and reports.* (1) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 calendar days before the performance test is scheduled to allow the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator as soon as possible of any delay in the original test date. The owner or operator shall provide at least 7 days prior notice of the rescheduled date of the performance test or arrange a rescheduled date with the Administrator by mutual agreement.

(2) Unless specified differently in this subpart or another subpart of this part, performance test and flare compliance determination reports not submitted as part of an Initial Compliance Status Report shall be submitted to the Administrator within 60 days of completing the test or determination.

(3) Any application for a waiver of an initial performance test or flare compliance determination as allowed by §65.157(b)(2), shall be submitted no later than 90 calendar days before the performance test or flare compliance determination is required. The application for a waiver shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the source performing the test.

§ 65.166 Periodic reports.

(a) Periodic reports shall include the reporting period dates, the total source operating time for the reporting period, and, as applicable, all information specified in this section and in other subparts of this part, including reports of periods when monitored parameters are outside their established ranges.

(b) For closed vent systems subject to the requirements of §65.143, the owner or operator shall submit as part of the periodic report the following information, as applicable:

(1) The information recorded in §65.163(a)(3)(ii) through (v);

(2) Reports of the times of all periods recorded under §65.163(a)(1)(i) when the vent stream is diverted from the control device through a bypass line; and

(3) Reports of all times recorded under §65.163(a)(1)(ii) when maintenance is performed on car-sealed valves, when the seal is broken, when the bypass line valve position is changed, or the key for a lock-and-key type configuration has been checked out.

(c) For flares subject to this subpart, report all periods when all pilot flames were absent or the flare flame was absent as recorded in §65.159(d)(1).

§ 65.167 Other reports.

(b) *Startup, shutdown, and malfunction periodic reports.* Startup, shutdown, and malfunction periodic reports shall be submitted as required in §65.6(c).

SECTION E.28 40 CFR 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

E.28.1 General Provisions Relating to NESHAP Subpart ZZZZ [326 IAC 20-82-1] [40 CFR Part 63, Subpart ZZZZ]

Pursuant to 40 CFR 63.6665 the Permittee shall comply with the provisions of 40 CFR Part 63 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

E.28.2 NESHAP Subpart ZZZZ Requirements [40 CFR 63, Subpart ZZZZ] [326 IAC 20-82-1]

Pursuant to 40 CFR 63.6665, the Permittee shall comply with the provisions of 40 CFR 63, Subpart ZZZZ, which are incorporated by reference in 326 IAC 20-82-1, for the Stationary Riciprocating Internal Combustion Engines, specified as follows:

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.*

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

Continuous Compliance Requirements

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to

comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in

§63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101–549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For

purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X(such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

Table 2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains

General provisions citation	Subject of citation	Applies to subpart	Explanation
			performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
	Malfunction Plan		
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes.	
§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Blvd, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify) _____

☐ Report (specify) _____

☐ Notification (specify) _____

☐ Affidavit (specify) _____

☐ Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE and ENFORCEMENT BRANCH

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Blvd, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_x, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone:_____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance and Enforcement Section

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Blvd, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453

Months: _____ **to** _____ **Year:** _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance and Enforcement Section

Part 70 Usage Report
Submit Report Quarterly

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453
Facility: Pipe line between emission units 501 and 503 and the Whiting Clean Energy Heat Recovery Steam Operator
Parameter: Steam accepted from Whiting Clean Energy
Limit: 13,200 tons per day

Month: _____ **Year:** _____

Day				Day			
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				no. of deviations			

☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance and Enforcement Section

Part 70 Usage Report
Submit Report Quarterly

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453
Facility: Pipe line between emission units 501 and 503 and the Whiting Clean Energy Heat Recovery Steam Operator
Parameter: Total steam produced by Units 501 and 503 plus amount of steam accepted from Whiting Clean Energy
Limit: 34,560 tons per day

Month: _____ **Year:** _____

Day				Day			
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				no. of deviations			

☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance and Enforcement Section

Part 70 Usage Report
Submit Report Quarterly

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453
Facility: Pipe line between emission units 501 and 503 and the Whiting Clean Energy Heat Recovery Steam Operator
Parameter: Steam supplied by Whiting Clean Energy to BP
Limit: 8,400 tons per day

Month: _____ **Year:** _____

Day				Day			
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				no. of deviations			

☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance and Enforcement Section

Part 70 Usage Report
Submit Report Quarterly

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453

Parameter: _____(Daily limitations, including average daily)
Facility: _____
Limit: _____(value) _____ (units)

Quarter: _____ **Year:** _____

Day	Month	Month	Month	Day	Month	Month	Month
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				no. of deviations			

☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone:_____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance and Enforcement Section
Part 70 Quarterly Report

Source Name: BP Products North America, Inc., Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
Part 70 Permit No.: T089-6741-00453

Parameter: _____(12 month limitations)
Facility: _____
Limit: _____(value) _____ (units)

QUARTER: _____ **YEAR:** _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	**Previous 11 Months**	**12 Month Total**
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone:_____

Document Level:	**3**
Document Number:	**E1105**
Document Review Date:	**1-30-2008**
Document Revision Date:	**1-30-2008**
Document Revision #	**6**

BP Whiting Business Unit

HSSE

Compliance Plans

BP Products North America Inc.
Whiting Business Unit
Whiting, Indiana

Fugitive Dust Control Plan

Maintained by the Whiting Business Unit Environmental Staff

Confidential Business Information

Information contained in this document represents confidential business information of the BP, Whiting Refinery. This document or information in this document shall not be disclosed outside of BP, Whiting Refinery without the existence of a completed confidentiality agreement between the outside party and BP, Whiting Refinery. No information in this document can be shared by any outside party with access to this document to a third party outside of BP, Whiting Refinery without the written approval of BP, Whiting Refinery.

BP Whiting Refinery
Fugitive Dust Control Plan

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1.0 Purpose

BP Products North America Inc. owns and operates the Whiting Business Unit, which is a petroleum products refining complex located in the Northwest Indiana, Lake County municipalities of Whiting, Hammond and East Chicago herein referred to as BP Whiting or the BP Whiting Refinery.

Lake County-specific fugitive dust emissions requirements are provided in 326 IAC 6.8-10-3 for Lake County, Indiana. Pursuant to 326 IAC 6.8-10-4, BP Whiting is specifically required to comply with the provisions of this section, including the development of a Fugitive Dust Control Plan.

BP Whiting has developed this Fugitive Dust Control Plan to identify facilities or operations that are subject to a fugitive dust control limitation under 326 IAC 6.8-10-3 and control measures and practices that BP Whiting employs to achieve compliance with such limitations.

Pursuant to 326 IAC 6.8-10-4(2), a control plan (i.e., Fugitive Dust Control Plan), upon submittal to the department (i.e., IDEM), shall become a part of source's operating permit or registration condition.

2.0 Applicability

Pursuant to 326 IAC 6.8-10-1, Rule 10 of 326 IAC 6.8, applies to facilities and operations at a source specifically listed in 326 IAC 6.8-10-1(a)(2) under subparagraphs (A) through (W). BP Whiting is specifically listed under 326 IAC 6.8-10-1(a)(2)(A). †

2.1 Regulatory Basis and Scope of the Fugitive Dust Control Plan

Lake County-specific fugitive dust emissions requirements are provided in 326 IAC 6.8-10-3 for Lake County, Indiana. Pursuant to 326 IAC 6.8-10-4, BP Whiting is specifically required to comply with the provisions of this section, including the development of a Fugitive Dust Control Plan.

Sections of the Lake County fugitive dust regulation that are relevant to BP Whiting operations are summarized below:

- 326 IAC 6.8-10-1(a)(2) Applicability
- 326 IAC 6.8-10-2 Definitions
- 326 IAC 6.8-10-3(1) Paved Road/Parking Lot Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-3(2) Unpaved Road/Parking Lot Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-3(3) Material Transfer (e.g., Batch Loading) Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-3(4) Material Transfer (e.g., Continuous Transfer) Opacity Limit and VEE

† The BP Whiting Refinery is identified as "Amoco Oil, Whiting Refinery" in 326 IAC 6..8-10-1(a)(2)(A).

Procedure

- 326 IAC 6.8-10-3(5) Storage Pile Wind Erosion Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-3(6) Material Transportation Activity Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-3(7) Material Processing Facilities Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-3(8) Dust Handling Equipment Opacity Limit and VEE Procedure
- 326 IAC 6.8-10-4 Compliance Requirements: Control Plans
- 326 IAC 6.8-10-4(4) Documentation to Show Compliance With Control Measures and Control Practices
- 326 IAC 6.8-10-4(G) Quarterly Reporting

3.0 Definitions and Abbreviations

”Batch transfer” means transfer of material onto or out of storage piles by front end loaders, trucks or cranes.

“Continuous transfer” means transfer of material onto or out of storage piles by conveyor.

“Control device” means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere.

“Dust handling equipment” means the equipment used to handle dust collected by control equipment, such as, but not limited to, a conveyor used to transfer dust from a control equipment hopper to a temporary storage container. A truck is an example of a temporary storage container. Both a conveyor and temporary storage container, in this case, are dust handling equipment.

“Facility” (pursuant to 326 IAC 1-2-27) means any one (1) structure, piece of equipment, installation or operation which emits or has the potential to emit any air contaminant. Single pieces of equipment or installations with multiple emission points shall be considered a facility for the purpose of 326 IAC 1-2.

“Fugitive particulate matter” means any particulate matter emitted into the atmosphere other than through a stack.

“IDEM” means the Indiana Department of Environmental Management

"In-Plant transportation" means transportation of material on plant transportation routes, such as railroads, and plant roads, in equipment such as trucks, railroad cars, front end loaders, conveyors, and skip hoists. The in-plant transportation might be from: 1) one process to another, 2) process equipment to waste disposal and reclamation sites and 3) one storage pile to another.

"Material" means raw process material, byproduct, intermediate product, waste product, final product, and dust collected by control equipment, having proportion of loose, dry dust equal to or greater than five-tenths percent (0.5%) as measured by the ASTM C-236 method, having potential to emit particulate emissions when disturbed by transfer, processing, and transportation activities.

"Material processing facilities" means the equipment, or the combination of different types of equipment, used to process material for use in the plant or for commercial sale. Equipment includes initial crusher, screen, grinder, mixer, dryer, belt conveyor, bucket elevator, bagging operation, storage bin and truck or railroad car loading station.

"Material transfer" means the transfer of material: 1) from processing equipment onto the ground, 2) from the ground into hauling equipment, 3) form hauling equipment onto a storage pile, 4) from a storage pile into hauling equipment for transport, or 5) into an initial hopper for further processing.

"Particulate matter" (pursuant to 326 IAC 1-2-52) means any airborne finely divided solid or liquid material, excluding uncombined water, with an aerodynamic diameter smaller than one hundred (100) micrometers (μm).

"Paved road" means an asphalt or concrete surfaced thoroughfare or right-of-way designed or used for vehicular traffic.

"Storage pile" means any outdoor storage on a source's property of "material" such as sand, limestone, gravel.

"Silt content" means the mass of an aggregate sample smaller than seventy-five (75) microns in diameter as determined by dry sieving. Silt content may be determined by using the procedures in AP-42 "Silt Analysis" Appendix C.2.3, Fifth Edition, January 1995, Supplements A through G, December 2000.

"Source" (pursuant to 326 IAC 1-2-73) means an aggregation of one (1) or more stationary emissions units that are located on one (1) piece of property or on contiguous or adjacent properties are owned or operated by the same person (or by persons under common control) and belong to a single major industrial grouping. For purposes of defining a source, two (2) or more contiguous or adjacent properties shall be considered part of a single major industrial grouping if all of the pollutant emitting activities at such contiguous or adjacent properties belong to the same major group, that is, all have the same two (2) digit Standard Industrial Classification (SIC) code as described in the Standard Industrial Classification Manual, 1987. Any stationary source (or group of stationary sources) that supports another source, where both are under common control of the same person (or persons under common control) and are located on contiguous or adjacent properties, shall be considered a support facility and part of the same source regardless of the two (2) digit SIC code for that support facility. A stationary source (or group of stationary sources) is considered a support facility to a source if at least fifty percent (50%) of the output

of the support facility is dedicated to the source. A source does not include mobile sources, non-road engines, or non-road vehicles.

"Transfer point" means a point in a conveying operation where the material is transferred to or from a belt conveyor, except where the material is being transferred to a storage pile.

“Unpaved road” means a thoroughfare or right-of-way other than a paved road designed or used for vehicular traffic.

"Vent" means an opening through which there is mechanically induced airflow for the purpose of exhausting air carrying particulate matter emissions from one (1) or more items of material processing equipment from a building.

“VEE” means Visible Emissions Evaluation, which is a means to determine opacity by EPA Method 9 located in Appendix A of 40 CFR 60.

4.0 Description of Affected Facilities and Operations

4.1 Source Location and Affected Facilities

As required per 326 IAC 6.8-10-4(3)(A), the name and address of the source covered by this plan and of the owner or operator responsible for the execution of this plan are included below:

BP Products North America Inc.
BP Whiting Business Unit
2815 Indianapolis Boulevard
Whiting, Indiana 46394

The following BP Whiting facilities and/or operations are affected by the Lake County fugitive dust emissions requirements in 326 IAC 6.8-10-4(3)(B):

- Paved Roads
- Unpaved Roads
- Parking Lots
- Storage Piles (e.g., sand, gravel and coke)
- Material Process Facilities (e.g., Coke Yard)
- Dust Handling Equipment (e.g., ESP fines collection at FCU's)
- Material Transfer Points
- Waste Disposal and Reclamation Sites (e.g., Catalyst/Sludge Staging Area referred to as the

"Cat Pad")

As required under 326 IAC 6.8-10-4(3)(C), a plot plans of BP Whiting, including the location of facilities and/or operations identified above is provided in Drawing No. D-3000-G-0002 and Drawing Nos. 3000-G-0201 through -0203, which are located in Appendix A. Also, as required under 326 IAC 6.8-10-4(3)(D), the following subsections provide descriptions of the facilities listed above.

4.2 Refinery Road System Including Paved and Unpaved Roads and Parking Lots

There are approximately 37 miles of roads located on-site at the BP Whiting Refinery ranging in width from 8 feet to 20 feet. Paved surfaces total about 35 miles, with the remainder of the roadway system consisting of unpaved surfaces. Unpaved roads are located in infrequently travelled portions of the refinery. In addition, there are approximately 15 main parking lots or areas within BP Whiting with many small parking areas adjacent to control rooms and other facilities within the refinery. Of the main parking areas, there are eight paved parking lots that cover approximately 5 acres and seven unpaved parking lots that cover approximately 15 acres.

The total number of vehicles travelling on the refinery road system varies widely and is estimated to range between 500 vehicles per day and 1,800 vehicles per day, depending upon the day of the week (i.e., weekend vs. weekday) and activities occurring at the refinery (e.g., unit turnarounds, new project construction, etc.) with an estimated average vehicle weight of 4 tons on paved surfaces and 2 tons on unpaved surfaces. The annual total vehicle miles travelled (VMT) is estimated to be approximately 690,000 miles. The maximum speed limit within the refinery is 20 miles per hour.

4.2.1 Paved Surfaces

Fugitive dust emissions estimates for paved surfaces are estimated using the following U.S. EPA AP-42 (AP-42) methodology:

$$E_{ext} = [k(sL/2)^{0.65}(W/3)^{1.5} - C](1 - P/4N)$$

Where,

E_{ext} = annual or other long-term average emission factor, lb/VMT

k = particle size multiplier, lb/VMT

sL = road surface silt loading (g/m2)

W = average weight (tons) of the vehicles traveling the road

C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (lb/VMT)

P = number of "wet" days with at least 0.01 in. of precipitation during the averaging period (120 days for Whiting, IN)

N = number of days in the averaging period (e.g., 365 days for annual)

The AP-42 paved road particle size multiplier (k) for PM_{10} is 0.016 pounds per VMT. The default value for silt loading (sL) for wintertime baseline conditions in areas that experience frozen precipitation with initial peak additive contribution from application of antiskid material is 2 g/m^2. The AP-42 PM_{10} emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear is 0.00047 lb/VMT.

4.2.2 Unpaved Surfaces

Fugitive dust emissions estimates for unpaved surfaces at industrial sites also follow AP-42 methodology:

$$E_{ext} = k(s/12)^a(W/3)^b\ [(365- P)/365]$$

Where,

E_{ext} = annual or other long-term average emission factor, lb/VMT

k = particle size multiplier, lb/VMT

s = surface material silt content (%)

W = average weight (tons) of the vehicles traveling the road

P = number of "wet" days with at least 0.01 in. of precipitation during the averaging period (120 days for Whiting, IN)

a, b = empirical constants

For unpaved surfaces, the AP-42 road particle size multiplier (k) for PM_{10} is 1.5 pounds per VMT, and the surface material silt content (s) for industrial roads is 1.8 % based on an average vehicle weight (W) of 2 tons. The empirical constants a and b are 0.9 and 0.45, respectively, for unpaved surfaces at industrial sites.

4.3 Storage Piles

There are two permanent storage piles located within the BP Whiting refinery: one is used for the storage of rock salt for winter road maintenance and the other is a sand pile used for cleanup of leaks and spills in

the Asphalt Blending area.

The rock salt storage pile is enclosed and located on Technical Service Road between Gate 15 and the Truck Garage. The storage pile enclosure measures approximately 65 ft. (W) x 50 ft. (D) ft. with a 6 ft. high concrete wall and a semi-cylindrical, mesh cover fastened to arch supports. The maximum grade to ceiling height of the enclosure is approximately 35 ft. Both ends of the semi-cylindrical enclosure are also covered by a mesh cover from the top of the concrete wall. An approximately 20 ft. (W) x 25 ft. (H) mesh-covered sliding gate provides ingress and egress to and from the enclosure. The rock salt is typically transferred from the storage enclosure via front-end loader to dump trucks that spread the material over paved roadways and surfaces during snowy or icy conditions to make for safer traveling conditions during these periods of inclement weather.

The sand used in the Asphalt Blending Area is stored within an area enclosed by a three-sided, 15-ft high piling wall. Distribution from the storage pile is typically by a front end loader into a dump truck and transported to the area of the refinery where it is needed.

The Coke Yard also contains permanent storage piles during coke processing and handling, which is discussed in Section 4.4.

On an as-needed and required basis, temporary piles are utilized throughout the refinery as a result of such activities as soil excavation or for use and/or application at various refinery locations. The temporary piles typically consist of sand, soil, rock salt or crushed stone and are usually either piled next to the area of the where the activity occurs. Depending on the scope of the activity, distribution from a particular

temporary pile is may be accomplished using a front-end loader or manual labor. Moisture and silt content of the materials vary widely depending on the type of material.

4.4 Coke Processing and Transfer Operation Pre-CXHO – Operation Canadian Crude

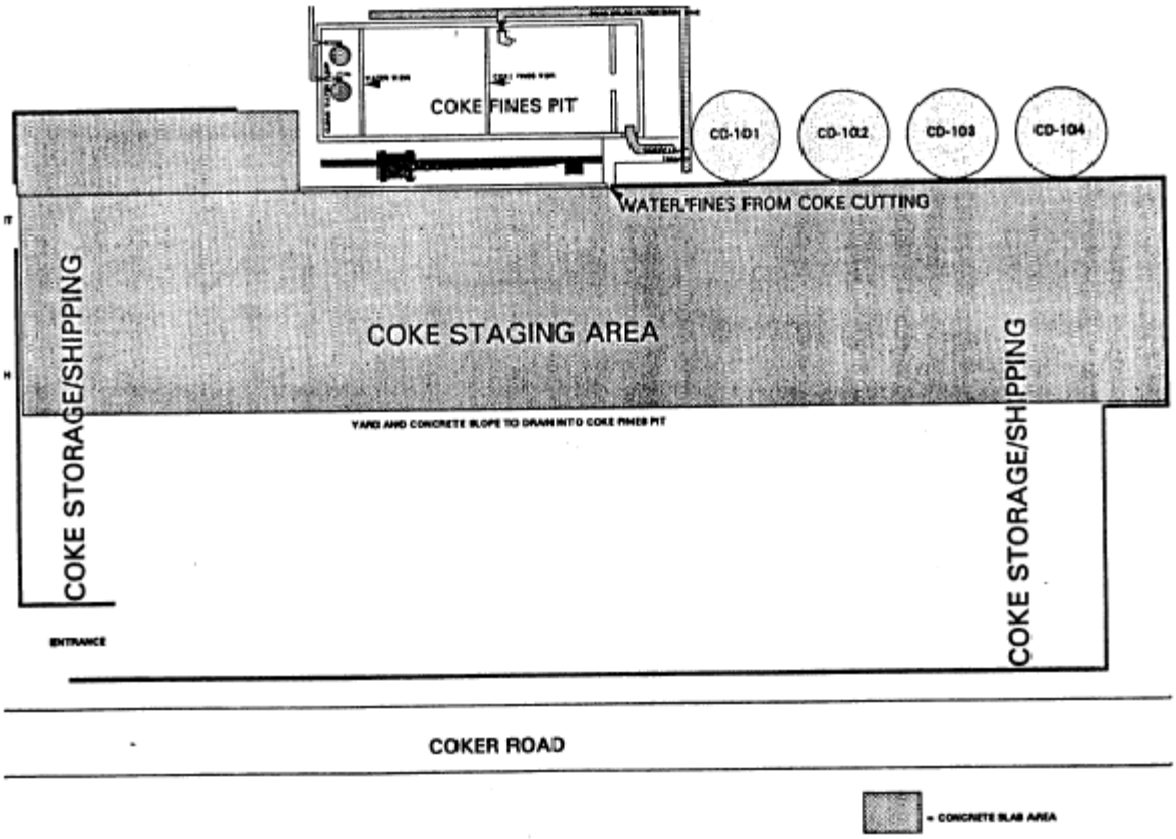
The maximum rate of coke production at the BP Whiting Refinery No. 11B Coker is estimated to be 2,000 tons per day. Potential fugitive dust emissions may result from coke handling, storage, and transfer operations that take place in the coke yard. Figure 1 is a diagram of the coke yard showing the material flow of the coke process.

Coke handling and transfer begins at the end of the coking process, where sluicing procedures are used to remove coke from filled coke drums shown as CD-101, CD-102, CD-103, and CD-104 in Figure 1. Prior to sluicing, the coke is completely contained within these pressurized vessels, where coke formation actually occurs. During the sluicing operation, the top and bottom heads of the filled coke drum are removed and a high-pressure water jet is used to cut the coke out of the drum. The wet coke falls out the drum into a pile below the drum, where it is removed by a front-end loader and transferred to the staging area for removal of excess water. Water and fines run off of the staging area into the coke fines pit, where fines are removed with a crane periodically and added to the coke pile. When excess water has drained off of the coke in the staging area, the wet coke is moved using a front-end loader to storage piles in the coke storage and shipping area of the yard.

Typically, no more than two days worth of coke is accumulated at the yard at any given time. As such, coke stored in piles typically retains relatively high moisture content during its residence within the coke

yard, which limits potential fugitive dust emissions from the area. Coke that has been in the yard the longest is shipped out first, which helps prevent the accumulation of dry coke on the piles. To remove coke from the coke yard, the material is transferred from the storage piles using a front-end loader into hauling trucks, which transports the coke offsite to customers. The hauling trucks are covered by a tarp prior to leaving the refinery to prevent the escape of potential fugitive particulate matter during transport.

Figure 1. Coke Yard Plot Plan



4.5 Coke Processing and Transfer Operation Post-CXHO – Operation Canadian Crude

A new coke handling system will be constructed to handle the coke produced from the new coker (#2 Coker) as part of the CXHO Project – Operation Canadian Crude (OCC). After the completion of the New #2 Coker, the maximum rate of coke production at the BP Whiting Refinery #2 Coker is estimated to be 6,000 tons per day. Potential fugitive dust emissions may result from coke handling, storage, and transfer operations. The coke handling system will be designed to minimize fugitive dust emissions from the coke handling process. This handling system will include enclosed conveyors and be comprised of up to 10 transfer points in the main operating scenario. Coke handling operations will be expected to operate under this main operating scenario for 95% of operating hours annually. There will also be an alternative operating scenario which will consist of three enclosed conveyors with unenclosed transfer points. This operating scenario exists as a contingency for malfunctions that could occur within the enclosed coke handling system. Coke handling operations are expected to operate under this emergency operating scenario for no more than 5% of operating hours annually. Figures 1a and 1b provide simplified process flow diagrams for these scenarios. Tables 1a and 1b detail the percentage control for each transfer point for these scenarios.

When the coking process is complete, coke is removed from the coke drums with a high pressure water spray and falls into a pit. The process is cycled between the six coke drums and coke is removed from two drums each cycle. The water saturated coke is moved from the pit to a temporary storage pile to dewater before it is moved by a bridge crane to a partially enclosed coke crusher. From the crusher the coke is conveyed in an enclosed conveyor to a transfer tower. The coke is then transferred using a series

of enclosed conveyors to either the day bin for loadout into rail cars, or if necessary to the enclosed coke storage pile for temporary storage. When coke is transferred from the enclosed storage pile to the day bin for loadout into rail cars, a series of enclosed conveyors are used for the transfer. From the day bin, coke will be loaded into rail cars using a telescopic chute to minimize particulate emissions. Particulate emissions from the storage and handling of the coke occur at various transfer points associated with the crusher, covered conveyors, day bin, and load out into the rail cars.

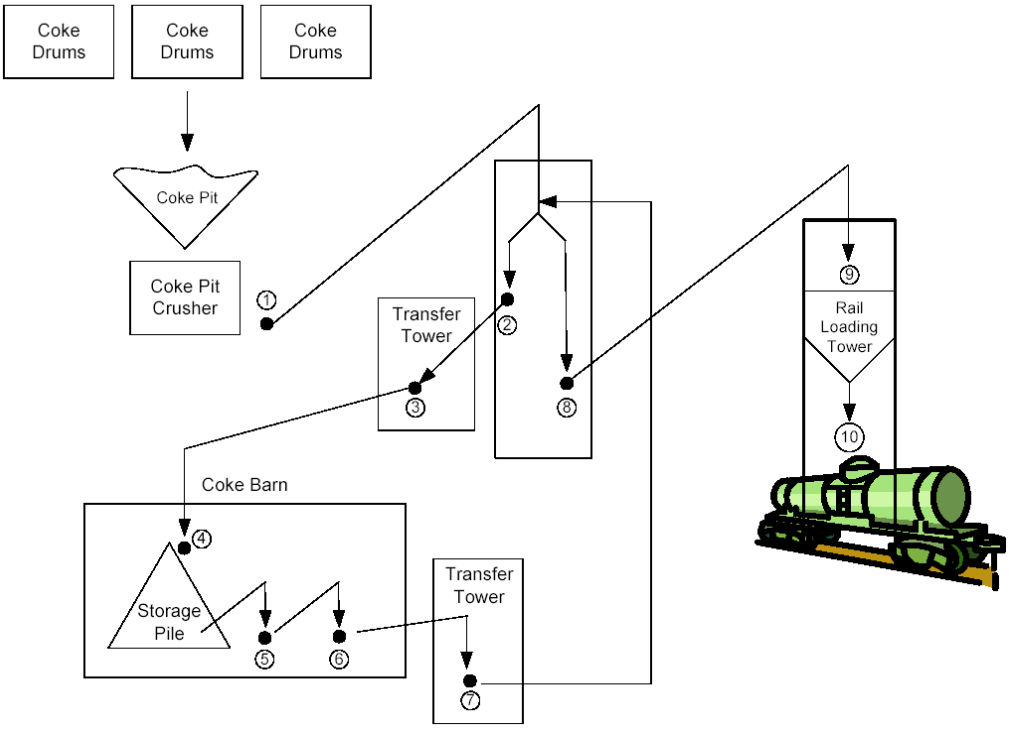


Figure 1a. Coke Handing and Storage – Main Operating Scenario

Table 1a. Percentage of Control for Transfer Points.

Transfer Point(s)	Percentage Control	Description of Control
1,10	70 %	enclosed conveyors and water spray
2 - 9	90 %	enclosed building and water spray

Figure 1b. Coke Handing and Storage – Alternate Operating Scenario

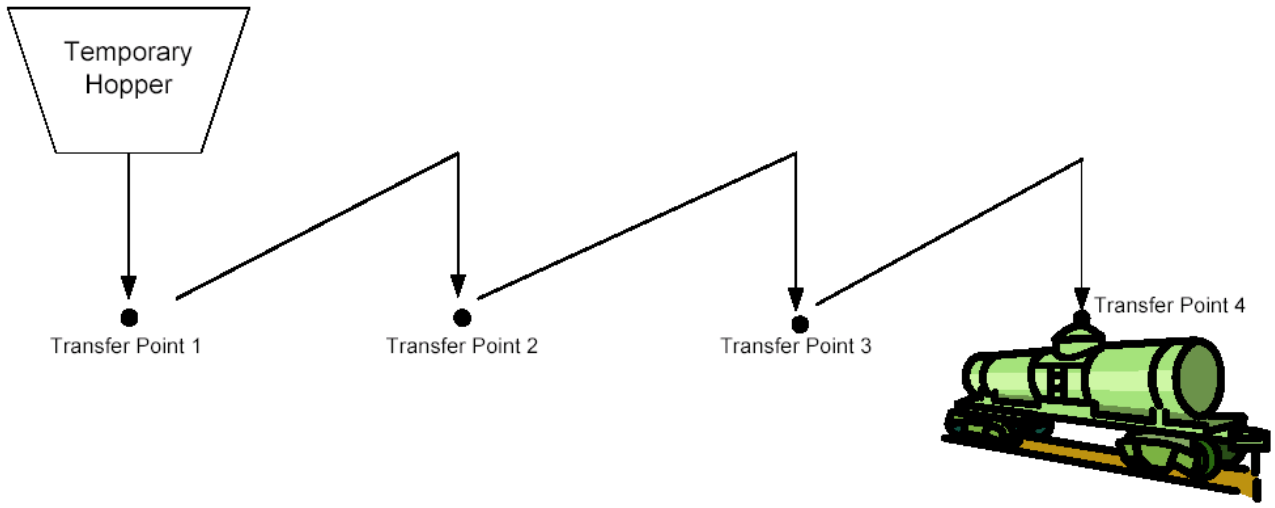


Figure 1b. Coke Handing and Storage – Alternate Operating Scenario

Table 1b. Percentage of Control for Transfer Points.

Transfer Point(s)	Percentage Control	Description of Control
1-3	40 %	enclosed conveyors
4	0 %	no control

4.6 Dust Handling Equipment (e.g., ESP Fines Collection at FCU's)

The Fluidized Catalytic Cracking Unit (FCU) utilizes a zeolytic catalyst to convert (i.e., crack) gas oil into more valuable products, including gasoline components, by circulating the catalyst between a reactor and a regenerator through a riser where gas oil comes into contact with the catalyst and the cracking occurs. BP Whiting Refinery uses two FCU's, FCU 500 and FCU 600, which are rated at 115 MM barrels of feed per day and 80 MM barrels of feed per day, respectively. Spent catalyst contained in flue gas from catalyst regeneration in the regenerators passes through an Electrostatic Precipitator (ESP), K-501 and K-502 at FCU 500 and K-701A and K-701B at FCU 600, which removes the fine spent catalyst particles prior to discharging to the atmosphere.

Catalyst fines collected in the ESP's collection bins are periodically emptied via vacuum truck and transported to the spent catalyst bin (F-52) where spent catalyst is accumulated before being transferred off-site where it is used in the cement industry. The spent catalyst bin is equipped with a cyclone separator for particulate emissions control.

4.7 Waste Disposal and Reclamation Sites (Cat Pad)

The Cat Pad is a spent catalyst/sludge staging area that is maintained as a permanent facility for storing and dewatering catalyst and sludge removed from various refinery units prior to disposal, including spent catalyst, heat exchanger sludge and oil- or water-soaked debris. Material is delivered to the Cat Pad by trucks or in drums typically in a wetted state. Transfer of material on the pad is performed using a front-end loader. Materials that are sent to the pad in a dry condition are usually wetted down with water after

dumping onto the pad to minimize the generation of fugitive particulate emissions. When materials are ready for transfer out of the area, a front-end loader is used to load the materials onto transport vehicles (including roll-off bins) for disposal in accordance with federal, state and local waste and hazardous-waste regulations.

Because a wide variety of materials are handled at the staging area, moisture and silt content of materials handled varies.

5.0 Control Measures and Practices

Pursuant to 326 IAC 6.8-10-4(3)(E) the following subsections provide descriptions of proposed control measures and practices the BP Whiting will employ to achieve compliance with the emission limitations.

5.1 Refinery Road System

Control measures and practices for BP Whiting's refinery road system are provided below for paved roads and unpaved roads.

5.1.1 Main Paved Roads

The main roads in the refinery are paved and shall be swept two times per week during the months of March through November. In the event of an unforeseen problem (such as, but not limited to, equipment failure, heavy rainfall, etc.), road sweeping shall be rescheduled. The road sweeps shall continue on a two times per week schedule during the months of November through March, weather permitting. Because weather conditions in the cold, winter months (i.e., November through March) can interfere with road sweeping and also in some cases obviate the need for it (e.g., rainfall and/or snowy conditions), alternate sweeping dates shall not be scheduled for those days when sweeping cannot occur.

Less traveled paved roads within the refinery (excluding tank fields) shall be swept on an as-needed basis as determined by Environmental Superintendent or their delegate. The refinery has a 20 mph speed limit throughout the facility that is enforced by plant security, which minimizes fugitive dust from road traffic.

Pursuant to 326 IAC 6.8-10-3(1), BP Whiting shall implement control measures as specified by 326 IAC 6.8-10-4(3)(F) within 24 hours after notification by IDEM or the U.S. EPA of violating the average instantaneous opacity limit. In addition, when requested by IDEM or U.S. EPA after an exceedance of the opacity limit is observed by a representative of either agency, BP Whiting shall initiate a compliance check with the silt loading limit. IDEM may require a revision of this Fugitive Dust Control Plan if the test shows an exceedance of the surface silt loading limit.

5.1.1.1 List of Conditions That Will Prevent Control Measures and Practices From Being Applied

Pursuant to 6.8-10-4(3)(F), conditions that will prevent control measures and practices for paved roads and parking lots from being implemented include, but are not limited to, the following:

- Extended periods of roadway or parking lot closures (e.g., due Personnel Exposure Minimization Plans (PEMP) during unit shutdowns and startups or due to road closure for maintenance and repair)

- Extended periods due inclement weather (e.g., wind storms, flooding, etc.)

- Extended number of consecutive Ozone Action Days

Note: Ozone Action Days are declared by IDEM when the state meteorologists predict that ground-level ozone could reach levels that pose health risks to sensitive groups. On such days, voluntary reduction is requested of affected citizenry, including industry, to reduce their contribution to the formation of ground-level ozone (e.g., the use of fuel fired equipment such as road sweepers).

5.1.1.2 Alternative Control Practices and Measures That Will Achieve Compliance With the Limit

BP Whiting will determine, at the time of notification by IDEM or U.S. EPA of violating the average instantaneous opacity limit for paved roadways and parking lots, measures that will achieve this average instantaneous opacity limit taking into consideration current meteorological conditions, operations and activities occurring at the refinery (e.g., unit turnarounds). Potential measures that may be considered, include, but are not limited to, the following:

- Limiting driving into and in the refinery to only essential personnel and emergency responders

- Stopping certain activities or jobs that are determined to be contributing to or aggravating the paved road and parking lot average instantaneous opacity limit.

5.1.2 Unpaved Areas

Unpaved areas of the refinery shall be treated with water or chemical solution by spray truck application on an as-needed basis as determined by the Environmental Superintendent or their delegate. A major factor in determining the need for spray truck application is the amount and frequency of precipitation that the BP Whiting Refinery receives, particularly during the hot, summer weather season.

Areas that will potentially be treated by spray tuck application include the J&L road system, the area surrounding the catalyst/sludge staging pad, unpaved parking areas and tank farm areas.

5.2 Storage Piles

As described in Section 3.3, the rock salt storage pile is enclosed by a concrete-lined, mesh covered structure to protect it from the elements, which also controls fugitive particulate emissions from wind erosion.

The sand in the Asphalt Area is stored within a 3-sided 15 ft. high piling wall, a.k.a. “sandbox”, for containment and fugitive particulate control from wind erosion.

5.3 Coke Handling, Storage, and Trucking Pre-CXHO – Operation Canadian Crude

The moisture content in the coke at the staging area (i.e., coke immediately following sluicing) is sufficiently high to prevent fugitive dust emissions, typically between approximately 5 to 15 percent.

Coke moved from the staging area to the coke yard is stored within an area with a 15-foot high piling wall for containment and wind control. The coke pile is properly graded to keep pile height from exceeding the wall height.

To control fugitive dust emissions from truck loading and truck transfer operations, all trucks leaving the coke yard must be tarped to cover the transported coke. Coke trucks are inspected by plant security personnel prior to leaving the refinery fence-line to ensure the loads are covered by tarps. In addition, BP Whiting utilizes a truck water spray system (except during winter months) to remove residual coke from the trucks as they leave the coke yard.

5.4 Coke Handling, Storage, and Transport Post-CXHO – Operation Canadian Crude

The moisture content of the coke in the coke pit is sufficiently high to prevent fugitive dust emissions, typically between approximately 5 to 15 percent. The moisture content of the coke throughout the coke handling and storage operation will be at a minimum 8% utilizing water spray when necessary.

Under the main coke storage and handing operating scenario, coke is transferred from the coke pit crusher to a covered conveyor providing a 70% emissions reduction. The coke is then transferred up to 8 times via enclosed conveyors in enclosed buildings providing a 90% emissions reduction. The final transfer point from the day bin into a rail car using telescopic chute is partially enclosed providing 70% emissions reduction.

Under the alternate coke storage and handling operating scenario, coke is transferred from a temporary

hopper via three enclosed conveyors providing 40% emissions reduction. The final transfer into the rail car is uncontrolled.

5.5 Cat Pad

Material delivered to the Cat Pad by trucks or in drums is typically in a wetted state. Materials that are transported to the Cat Pad in a dry state are wetted down upon delivery as necessary to control fugitive dust emissions.

6.0 Visible Emissions Evaluations

BP Whiting personnel shall perform visible emissions evaluations (VEE's) to determine the opacity of fugitive particulate emissions resulting from the various sources of fugitive dust, as provided in this section. The VEE's will provide the data required by 326 IAC 6.8-10-4(3)(E) that prove the effectiveness of the control measures and practices described in Section 5.0.

6.1 VEE's of Refinery Roadways and Parking Lots

BP Whiting shall conduct quarterly VEE's of the refinery roadways and parking lots.

6.1.1 Paved Surfaces

Pursuant to 326 IAC 6.8-10-3(1), the average instantaneous opacity of fugitive particulate emissions for paved surfaces shall not exceed 10%.

The average instantaneous opacity shall be the average of twelve (12) VEE's of instantaneous opacity readings taken for four (4) vehicle passes consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

- The first reading will be taken at the time of emission generation
- The second reading will be taken five (5) seconds later
- The third reading will be taken five (5) seconds after the second reading (i.e., ten (10) seconds

after the first).

The three (3) readings will be taken at the point of maximum opacity. The observer will stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway. Particular consideration will be give to the coke truck routes within the refinery.

6.1.2 Unpaved Surfaces

Pursuant to 326 IAC 6.8-10-3(2), the average instantaneous opacity of fugitive particulate emissions for unpaved surfaces shall not exceed 10%.

The average instantaneous opacity shall be determined according to the procedure described in Section 6.1.1 above.

6.2 VEE's of Storage Piles

Pursuant to 326 IAC 6.8-10-3(5), the opacity of fugitive particulate emissions from the wind erosion of storage piles may not exceed 10% on a 6-minute average.

The VEE's to determine opacity shall be conducted quarterly in accordance with 40 CFR 60, Appendix A, Method 9, except that the opacity will be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and

at approximately right angles to the plume.

Note: The opacity limit of fugitive particulate emissions above shall not apply during periods when application of fugitive particulate control measures is either ineffective or unreasonable due to sustained very high wind speeds. During such periods, BP Whiting shall continue to implement *reasonable* fugitive particulate control measures. Records shall be maintained for the application of such fugitive particulate control measures and the basis for a claim that meeting the opacity limitation was not reasonable given the prevailing wind conditions.

6.3 VEE's of Coke Yard Operations

BP Whiting will perform VEE's to determine the opacity of fugitive particulate emissions resulting from various coke yard operations as provided below. The VEE's shall be conducted on a quarterly basis unless otherwise specified.

6.3.1 Batch Transfer

Pursuant to 326 IAC 6.8-10-3(3)(A), the average instantaneous opacity of fugitive particulate emissions from batch transfer operations (i.e., transport of coke fines from the staging area to the coke piles via crane) shall not exceed 10%.

The average instantaneous opacity shall be three (3) instantaneous VEE's, taken as follows:

- The first reading will be taken after the end of one (1) batch loading or unloading operation

- The second reading will be taken five (5) seconds after the first reading
- The third reading will be taken five (5) seconds after the second reading (i.e., ten (10) seconds after the first).

The three (3) readings will be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

6.3.2 Continuous Transfer

Pursuant to 326 IAC 6.8-10-3(4), the opacity of fugitive particulate emissions from continuous transfer operations (i.e. continuously transfer into or out of storage piles) shall not exceed 10% on a three minute average. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9. Additionally, the opacity readings shall be taken at least four feet from the point of origin.

6.3.3 Wind Erosion from Coke Yard Storage Piles

Pursuant to 326 IAC 6.8-10-3(5), the opacity of fugitive particulate emissions from the wind erosion of storage piles may not exceed 10% on a 6-minute average.

The VEE's for opacity shall be determined according to the procedure described in Section 6.2 above for VEE's of Storage Piles.

6.3.4 Material Transportation - In-Plant Material Transported by Truck or Rail

Pursuant to 326 IAC 6.8-10-3(6)(A), there shall be a zero percent (0%) frequency of visible emissions of a material (i.e., no visible emissions) during the in-plant transportation of material by truck or rail at any time. Compliance with the limit above shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or vehicle. The observations shall be made within BP Whiting Refinery property boundary.

Note: Pursuant to 326 IAC 6.8-10-3(6)(A), material transported by truck or rail that is enclosed and covered shall be considered in compliance with the in-plant transportation requirement, and, as such, shall not require VEE's for opacity compliance determination.

6.3.5 Material Transportation - In-Plant Material Transported by Front-End Loader or Skip Hoist

Pursuant to 326 IAC 6.8-10-3(6)(B), opacity from particulate emissions from in-plant transportation of material by front-end loader or skip hoist shall not exceed 10%. The three (3) opacity readings shall be taken as follows:

- The first reading will be taken at the time of emission generation
- The second reading will be taken five (5) seconds later
- The third reading will be taken five (5) seconds after the second reading (i.e., ten (10) seconds

after the first).

The three (3) VEE's shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the coke storage and shipping area of the coke yard.

6.3.6 Crusher

Pursuant to 326 IAC 6.8-10-3(7)(C), opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed 15%. Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9.

6.3.7 Building Enclosure

Pursuant to 326 IAC 6.8-10-3(7)(D), there shall be a zero percent frequency of visible emissions observed from a building enclosing all or part of the material processing equipment except from a vent in the building. Compliance with this standard shall be determined by 40 CFR 60, Appendix A, Method 22.

Pursuant to 326 IAC 6.8-10-3(7)(E), PM_{10} emissions from building vents shall not exceed 0.022 grains per dry standard cubic foot and 10% opacity. Compliance with the concentration standard shall be determined by 40 CFR 60, Appendix A, Method 5 or 17, and with the opacity standard by 40 CFR 60, Appendix A, Method 9.

6.4 VEE's of Dust Handling Equipment (e.g., ESP Fines Collection at FCU's)

Pursuant to 326 IAC 6.8-10-3(8), the average instantaneous opacity of fugitive particulate emissions for dust handling equipment shall not exceed 10%.

The VEE's to determine opacity shall be conducted quarterly in accordance with 40 CFR 60, Appendix A, Method 9 during the removal of spent catalyst fines from the ESP collection bins into the tote boxes at FCU 500 and FCU 600 and during the transfer spent catalyst fines from the tote boxes into the spent catalyst storage hopper located at FCU 500.

6.5 VEE's of Waste Disposal and Reclamation Sites (Cat Pad)

Pursuant to 326 IAC 6.8-10-3(6)(B), opacity from particulate emissions from in-plant transportation of material by front-end loader or skip hoist shall not exceed 10%. VEE's shall be conducted quarterly consisting of three (3) opacity readings taken as follows:

- The first reading will be taken at the time of emission generation
- The second reading will be taken five (5) seconds later
- The third reading will be taken five (5) seconds after the second reading (i.e., ten (10) seconds after the first).

The three (3) VEE's shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the staging area.

6.6 VEE's of General Facilities or Operations

Pursuant to 326 IAC 6.8-10-3(8), any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%) opacity, three (3) minute opacity standard. Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9, except that the opacity standard shall be determined as an average of twelve (12) consecutive observations recorded at fifteen (15) seconds intervals. Compliance of any operations lasting less than three (3) minutes shall be determined as an average of consecutive operations recorded at fifteen (15) second intervals for the duration of the operation.

7.0 References

Code for Federal Regulations, Title 40, Part 60, Appendix A, Method 9 - Visual Determination of the Opacity of Emissions From Stationary Sources

Control of Open Sources of Fugitive Dust, U.S. EPA, September 1988.

BP Whiting Refinery Drawing Nos. E-3000-G-0201 through -0203

BP Whiting Refinery Drawing No. D-3000-G-0002

Indiana Department of Environmental Management, Title 326 Air Pollution Control Board, Article 6.8, Rule 10 - Lake County: Fugitive Particulate Matter.

U.S. EPA, "Compilation of Air Pollutant Emission Factors", Volume 1: Stationary Point and Area Sources, AP-42 Fifth Edition, January 1995, "Silt Analysis", Appendix C.2.3.

U.S. EPA, "Compilation of Air Pollutant Emission Factors", Volume 1: Stationary Point and Area Sources, AP-42 Fifth Edition, January 1995, Supplements A through G, December 2000

U.S. EPA, Guidance Document, EPA 600/2-79-103, "Iron and Steel Plant Open Source Fugitive Emission Evaluation", Appendix B.

8.0 Records

8.1 Recordkeeping

Pursuant to 326 IAC 6.8-10-4(4), the following documentation to show compliance with each fugitive dust emissions control measures and control practices shall be maintained for three (3) years and made available for inspection and copying by IDEM during working hours. Copies of records required by 326 IAC 6.8-10 described below shall be submitted to IDEM within twenty (20) working days of *a written request by IDEM*.

8.1.1 Location of Particulate Emissions from Fugitive Dust

A map or diagram showing the location of particulate matter emissions from fugitive dust sources controlled, including:

- Location
- Identification
- Length of roadways
- Width of roadways

8.1.2 Spray Application of Water or Chemical Solution to Roadways

For each spray application of water or chemical solution to roadways:

- The name and location of the roadway controlled
- The application rate
- The time of each application
- The width of each application
- The identification of each method of application
- The total quantity of water or chemical solution, the concentration and identity of the chemical
- The material safety data sheet(s) for each chemical

8.1.3 Application of Other Physical or Chemical Control Agents

For application of physical or chemical control agents not covered in Section 6.1.2, the following:

- The name of the agent
- The location of application
- The application rate
- The total quantity of agent used
- If diluted, the percent of concentration
- The material data safety sheets for each chemical

8.1.4 Records of Events Where a Control Measure Could Not Be Implemented

A logbook for records of events where a control measures (e.g., road sweeping) described within this plan

were not/could not be implemented, including a statement of explanation (e.g., weather conditions and/or work stoppage).

8.2 Reporting

Pursuant to 326 IAC 6.8-10-4(4)(G), BP Whiting shall submit a quarterly report to IDEM within thirty (30) calendar days from the end of a quarter (i.e., April 30 for the first quarter, July 30 for the second quarter, etc.). The quarterly reports shall include the following:

- The date(s) on which the required control measure(s) was not implemented
- A listing of the control measure(s) not implemented
- The reason(s) that the control measure(s) were not implemented
- Corrective action(s) taken

In cases where control measures, such as road sweeping, were performed on alternate dates due to inclement weather, the dates on which the control measures were to have been implemented shall not be included in the quarterly report.

9.0 Plan Maintenance – Management of Change

Revisions to this Fugitive Dust Control Plan may be predicated on changes in operation that result in a reduction in uncontrolled PM_{10} emissions to less than five tons per year or upon a determination that the plan is inadequate. Each category of revisions is discussed below.

Pursuant to 326 IAC 6.8-10-4(6), a source specifically listed in 326 IAC 6.8-10-1(a)(2) shall be exempt from the requirements 326 IAC 6.8-10 - Lake County: Fugitive Particulate Matter if it can demonstrate to IDEM that its uncontrolled PM_{10} emissions are less than five (5) tons per year. An exemption must be approved by both the department and by U.S. EPA as a revision to the state implementation plant.

326 IAC 6.8-10-4(8) states that IDEM may require that a source revise its control plan if either of the following applies:

- A test of surface silt loading on a paved road show that the loading is greater than 100 pounds per mile average over five roads or five road sections. The surface silt loading shall be determined using the sampling and analysis procedures in the U.S. EPA Guidance Document: EPA 600/2-79-103, "Iron and Steel Plant Open Source Fugitive Emission Evaluation", Appendix B.

- IDEM's evaluation of the control plan under 326 IAC 6.8-10(7) determines that the requirements of the control plan have not been met.

Pursuant to 326 IAC 2-7-11(c)(3), the source may implement the changes addressed in the request for an *administrative amendment* immediately upon submittal of the request. The BP Whiting Environmental Engineer for Air Permitting shall determine whether or not changes to the Fugitive Dust Control Plan meet the requirements for administrative amendments in accordance with 326 IAC 2-7-11(a) or for permit revision requirements in accordance with 326 IAC 2-7-8 and shall submit the revised Fugitive Dust Control Plan to IDEM accordingly.

The changes and/or revisions to the Fugitive Dust Control Plan shall be documented in the table below.

Revision Level	Change(s)	Author	Date
0	Initial FDCP	Unknown	11/1980
1	Update Affected Operation List and Procedures	Unknown	02/1986
2	Update Affected Operation List and Procedures	Unknown	11/1993
3	Update Affected Operation List and Procedures	Unknown	07/1996
4	Update Affected Operation List and Procedures	N. Grimmer	05/2004
5	Update to New PM Limitations for Lake Co. Under 326 IAC 6.8	E. Sekiguchi	11/2006
6	Updated New Coker (#2 Coker) Coke Processing and Transfer Operation post CXHO Project	Trinity/N. Grimmer	1/2008

Authored by: Natalie Grimmer

Approved by: Linda Wilson

Date: 1-XX-08

Date: 1-XX-08

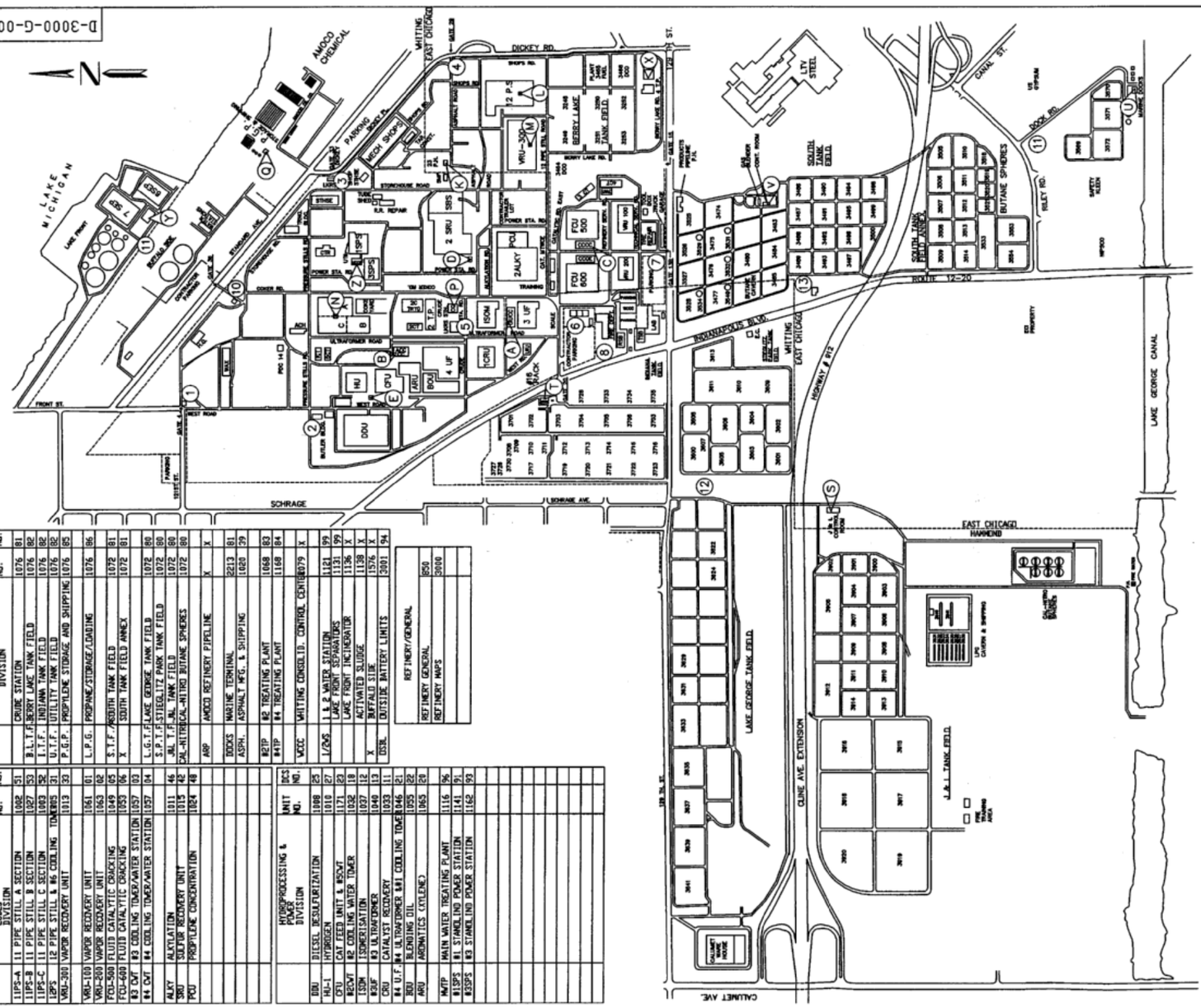
Appendix A

Facility Plot Plans

Drawing No. D-3000-G-0002
Drawing Nos. E-3000-G-0201 through -0203

3000-0002

D-3000-G-0002



OIL MOVEMENT DIVISION	UNIT NO.	DCS NO.
CRUDE STATION	1076	81
B.L.T.F./BERRY LAKE TANK FIELD	1076	82
I.T.F./INDIANA TANK FIELD	1076	82
U.T.F./UTILITY TANK FIELD	1076	82
P.G.P./PROPYLENE STORAGE AND SHIPPING	1076	85
L.P.G./PROPANE/STORAGE/LOADING	1076	86
S.T.F./SOUTH TANK FIELD	1072	81
X/SOUTH TANK FIELD ANNEX	1072	81
L.G.T./LAKE GEORGE TANK FIELD	1072	86
S.P.T./STIEGLITZ PARK TANK FIELD	1072	86
J&L T.F./J&L TANK FIELD	1072	86
CAL-NITRO/CAL-NITRO BUTANE SPHERES	1072	86
AMP/AMOCO REFINERY PIPELINE	X	X
DOCKS/MARINE TERMINAL	2213	81
ASPHALT/ASPHALT MFG. & SHIPPING	1020	39
#2TP/#2 TREATING PLANT	1068	83
#4TP/#4 TREATING PLANT	1168	84
WCCC/WHITING CONSOLID. CONTROL CENTER	1079	X
I & P WATER STATION	1181	99
LAKE FRONT SEPARATORS	1131	99
LAKE FRONT INCINERATOR	1136	X
ACTIVATED SLUDGE	1138	X
X/BUFFALO SIDE	1576	X
OSBL/OUTSIDE BATTERY LIMITS	2001	94

REFINERY/GENERAL	
REFINERY GENERAL	850
REFINERY MAPS	3000

CRUDE CRACKING & FINISHING DIVISION	UNIT NO.	DCS NO.
11PS-A/11 PIPE STILL A SECTION	1002	51
11PS-B/11 PIPE STILL B SECTION	1027	53
11PS-C/11 PIPE STILL C SECTION	1083	52
12PS/12 PIPE STILL & #6 COOLING TOWER	1085	91
VRU-300/VAPOR RECOVERY UNIT	1019	93
VRU-100/VAPOR RECOVERY UNIT	1061	01
VRU-200/VAPOR RECOVERY UNIT	1063	02
FCU-500/FLUID CATALYTIC CRACKING	1049	05
FCU-600/FLUID CATALYTIC CRACKING	1050	06
#3 C/T/#3 COOLING TOWER/WATER STATION	1057	03
#4 C/T/#4 COOLING TOWER/WATER STATION	1057	04
ALKY/ALKYLATION	1011	46
SRU/SULFUR RECOVERY UNIT	1015	42
PCU/PROPYLENE CONCENTRATION	1024	48

HYDROPROCESSING & POWER DIVISION	UNIT NO.	DCS NO.
DBU/DIESEL DESULFURIZATION	1008	25
HU-1/HYDROGEN	1010	27
CFU/CAT FEED UNIT & #5C/VT	1171	23
#2CW/#2 COOLING WATER TOWER	1032	18
1SDM/ISOMERISATION	1037	12
#3UF/#3 ULTRAFORMER	1040	13
CRU/CATALYST RECOVERY	1033	11
#4 U.F./#4 ULTRAFORMER &#1 COOLING TOWER	1046	21
BOU/BLENDING OIL	1055	22
ARU/AROMATICS (XYLENE)	1065	28
MWTP/MAIN WATER TREATING PLANT	1116	96
#1SPS/#1 STANDLIND POWER STATION	1141	91
#3SPS/#3 STANDLIND POWER STATION	1162	93

DENOTES CLOSED ROAD

MEDICAL EMERGENCY
-CALL X1313 EMT's AT GATE 13

FIRE
-CALL X1212 SECURITY GATE 4

SPILL
-CALL X1414 CUBE COORDINATOR
-CALL PAGER #708487 ENV. INSP.
OR OPERATIONS CH. A
-IF NECESSARY- CALL LAKE FRONT AT X3248

UNIT/COMPLEX	SIGN-IN LOCATION	(X)	PRIMARY EVACUATION POINT	P E A	SECONDARY EVACUATION POINT	UNITS IN COMPLEX
UTU COMPLEX	COMPLEX CONTROL CENTER	A	GATE 20 (CONTRACTOR'S)	6	CRUDE STN LOCKER ROOM	1CRU/#2ISDM/#3UF/#2CT
ACC COMPLEX	COMPLEX CONTROL CENTER	B	BUTLER BLDG. (WEST OF H/P2)	4	CRUDE STN LOCKER ROOM	#4UF/ARU/BOU
FCU's/ARU's COMPLEX	COMPLEX CONTROL CENTER	C	GATE 13B	7	GATE 20	VRU-100/200, FCU-500/#3&#4CT
ALKY.,SRU,PCU COMPLEX	COMPLEX CONTROL CENTER	D	CRUDE STN LOCKER ROOM	5	NORTHWEST LOT 10	ALKY/SRU/TGU/PCU
CFU/DBU/HU-1 COMP.	COMPLEX CONTROL CENTER	E	BUTLER BLDG. (WEST OF H/P2)	5	STATION LOCKER ROOM	CFU/DBU/HU/#1 & #5CT
ASPHALT	ASPHALT CONTROL ROOM	K	GATE 29 (EAST OF UNIT)	4	DICKEY GATE LOCKER ROOM	BERRY LAKE TANK FIELD
#12 PIPESTILL	#12PS CONTROL ROOM	L	GATE 29 (N/E OF #12PS)	4	WEST OF #4 TREATING PLANT	SEC.300/350/370/380/390/MCROX/AMINE
VRU-300	VRU-300 CONTROL ROOM	M	GATE 29 (N. OF SCALE GATE, E. OF ASPHALT)	4	WEST OF #4 TREATING PLANT	A/C SECTION, B SECTION (COKER)
#11 PIPESTILL	#11PS CONTROL ROOM	N	DICKEY GATE LOCKER ROOM	3	GATE 36	
LPG STORAGE/LOADING	J & L CONTROL ROOM	S	129th ST. & LAKE GEORGE	12	GATE 13B	
#16 LOADING RACK	CRUDE STN. CTR. ROOM	S	129th ST. & LAKE GEORGE	12	GATE 13B	
PGP STORAGE/LOADING	PGP CONTROL ROOM	P	DICKEY GATE	3	GATE 36	
CRUDE STATION	CRUDE STN CTR. ROOM	Q	CRUDE STN LOCKER ROOM	5	GATE 13B	
J&L CONTROL COMPLEX	J & L CONTROL ROOM	S	ENTRANCE LAKE GEORGE	12	GATE 13B	
INDIANA TANK FIELD	J & L CONTROL ROOM	S	ENTRANCE LAKE GEORGE	12	GATE 13B	
MARINE DOCKS	DOCK CONTROL ROOM	U	ENTRANCE BOAT DOCK	11	GATE 13B	
SOUTH TANK FIELD	SOUTH FLD CONTROL ROOM	V	GATE 18	12	GATE 13B	
#2 TREATING PLANT	CRUDE STN CTR. ROOM	P	NORTHWEST LOT 10	5	GATE 13B	
#4 TREATING PLANT	#4TP CONTROL ROOM	X	GATE #28(N. OF SCALE GATE, E. OF ASPHALT)	4	WEST OF #4 TREATING PLANT	CAL-NITRO/JAL CRUDE/SHIPPING/LTF/SPT
LAKEFRONT	LAKEFRONT CTR. ROOM	Y	LAKEFRONT ENTRANCE GATE	11	WHITING PARK	BLACK OILS DOCK AREA
POWER STATIONS	UTIL. CONTROL CTR. ROOM	Z	DICKEY GATE	3	TRAINING BUILDING	SERIES OF LONGS: SERIES OF SHORTS: STF/ANNEX/BLACK OILS DOCK AREA
REFINERY PIPE ALLEY	CRUDE STATION CTR. ROOM	P	NORTHWEST LOT 10	6	GATE 13B	2A/2B/2H/2J
						ALTERNATING- SHORT & LONG: 30 SEC. LONG:

FIELD EVACUATION ALARMS

PATTERNS	WHAT DO THEY MEAN?
SERIES OF SHORTS:	EVAC ALL PERSONNEL
SERIES OF LONGS:	EVAC NON-OPER. PERSONNEL
ALTERNATING- SHORT & LONG:	EVAC NON ESSENTIAL PERSONNEL
30 SEC. LONG:	ALL CLEAR

PEA = PRIMARY EVACUATION AREA

AMOCO OIL COMPANY
ENGINEERING DEPARTMENT WHITING INDIANA

WHITING REFINERY
DIVISIONS/UNITS/KEY TO DWG NUMBERING & FILING/SIGN IN-OUT/EVACUATION AREAS

REV. NO.	DATE	REVISION DESCRIPTION	PROJ. NO.	APPV. NO.	DWN. BY	CHKD. BY
7	07/24/00	GENERAL UPDATE				
6	12/01/98	UNIT/DCS NUMBERS UPDATED			M.D.	M.D.
5	11-21-96	GENERAL REVISION				
4	5-13-96	GENERAL REVISION				
3	4-24-96	GENERAL REVISION				
2	1-17-96	PAGER REVISION				
9	01/30/03	UPDATED MAP PER FIELD VERIFCATION				S.R.H.
8	12/02/02	UPDATED EVACUATION LOCATIONS FOR VRU-300 & #4 TP				S.R.H.

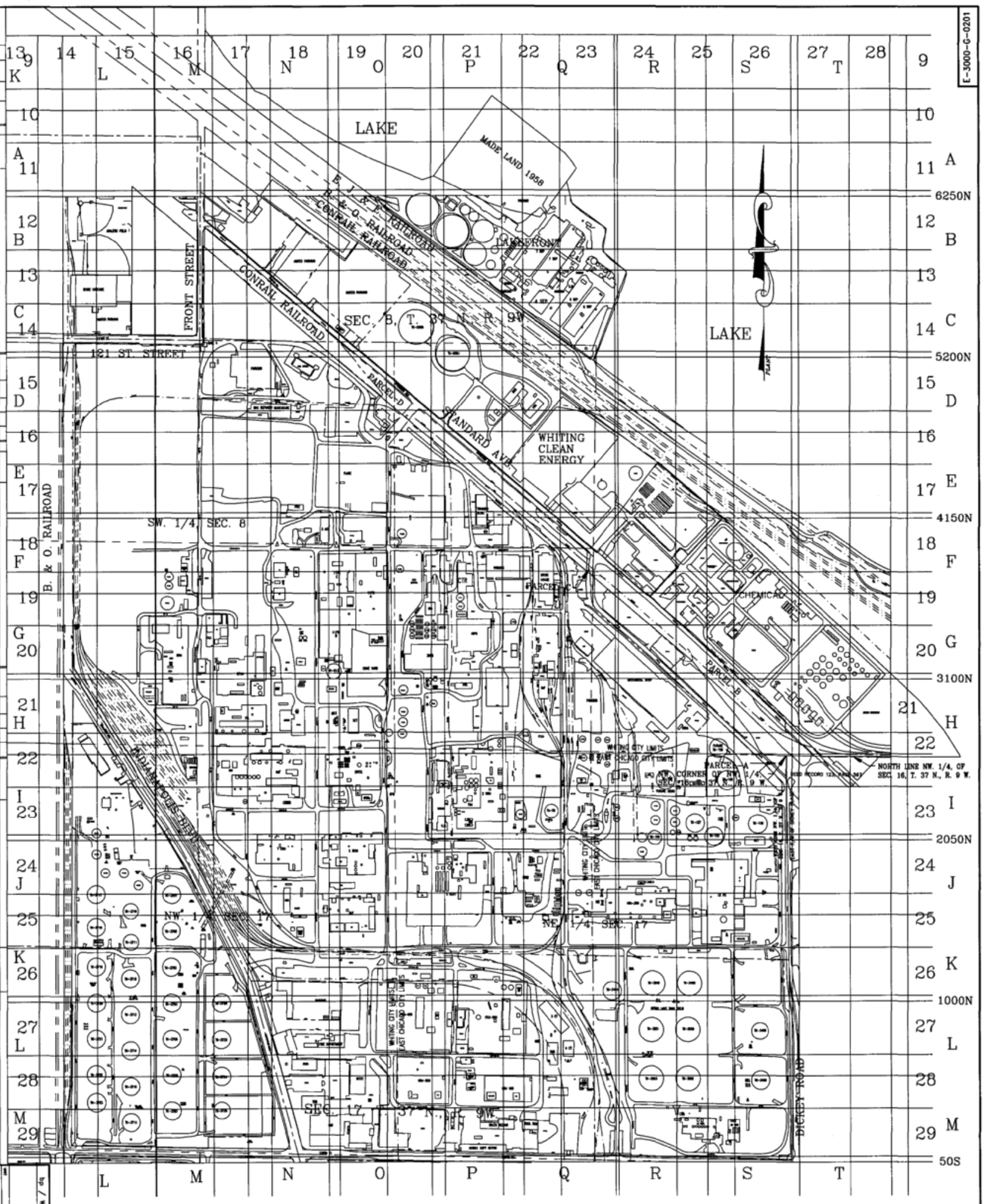
DWG. NO.	REFERENCE DRAWINGS
D-3000-G-0218	REFINERY & VICINITY MAP

ISSUED FOR | BY | DATE | EST. | APPV.

UNIT 3000	GRID
DIV. REFINERY	SCALE: AS SHOWN
DRAWN: WJJ	DATE: 08-30-95
CHECKED: WJJ	SHEET NO. 1 OF 1
DSGN: WJJ	DRAWING NO. D-3000-G-0002
	REV. 9

VERSION: DATE:

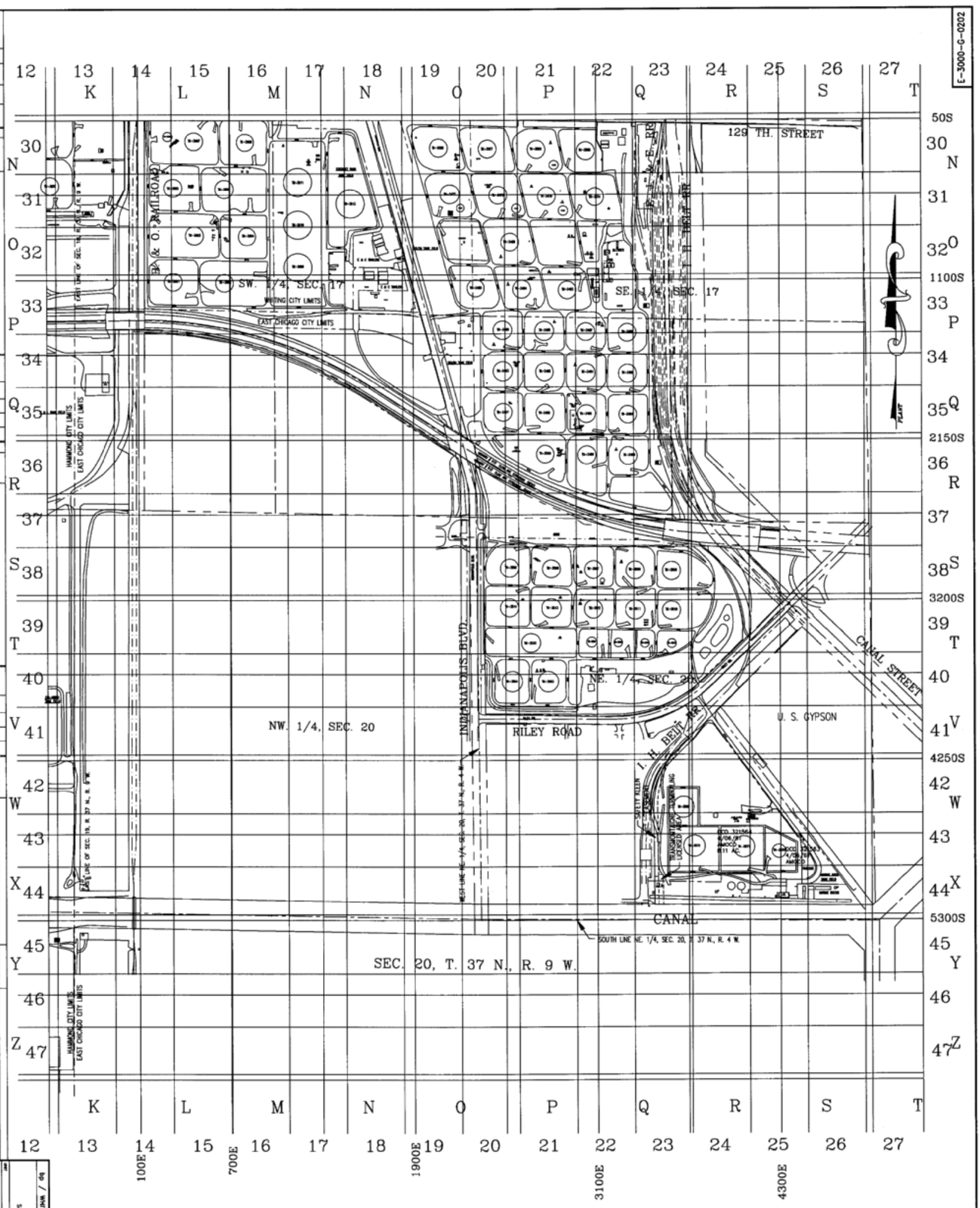
NOTIFY ENGINEERING OF ALL CHANGES



BP / WHITING BUSINESS UNIT

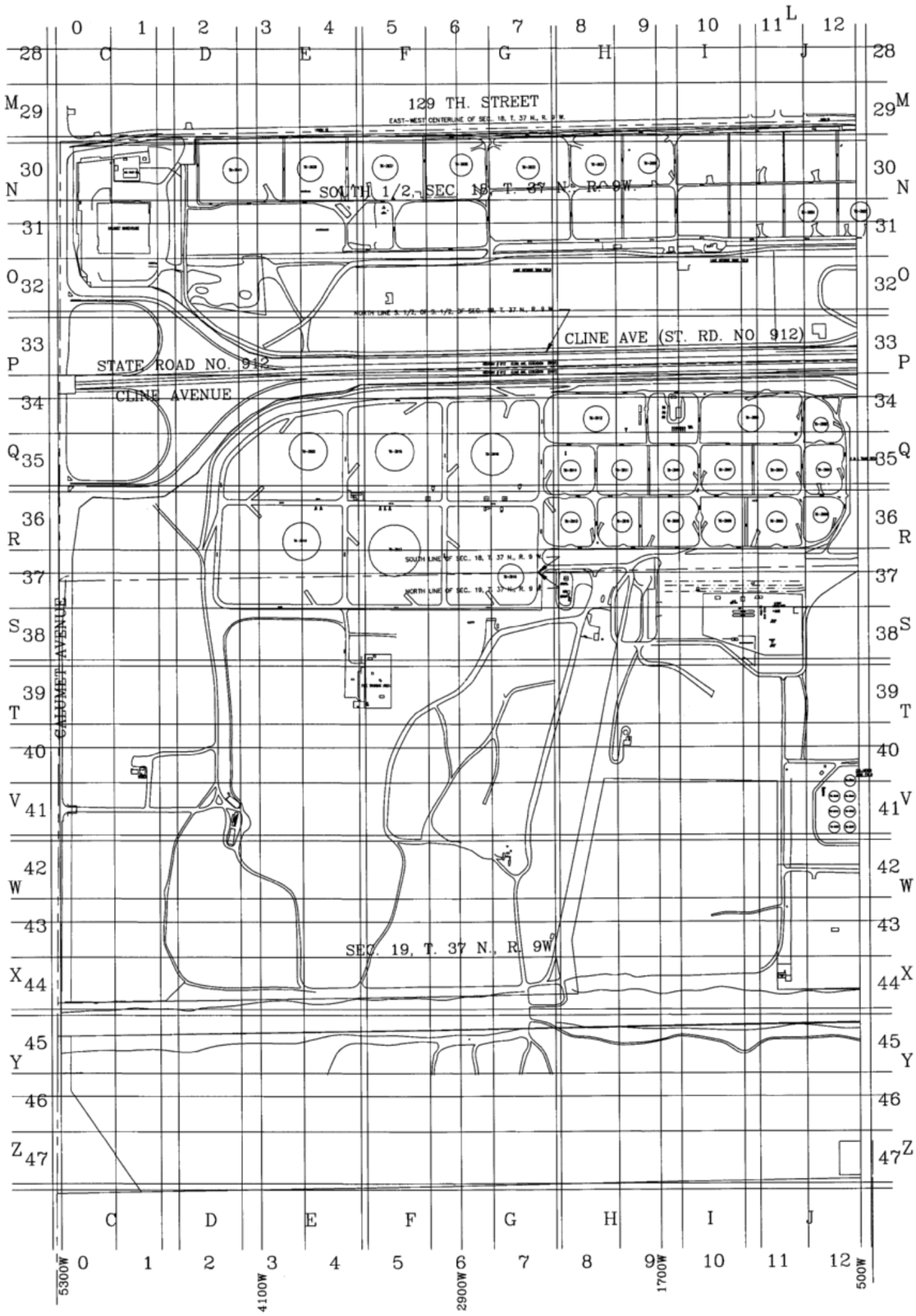
SAFE LOAD MAP

E-3000-C-0201 0


E-3000-G-0202
129 TH. STREET
B. & O. RAILROAD
SW. 1/4, SEC. 17
SE. 1/4, SEC. 17
HAMMOND CITY LIMITS
EAST CHICAGO CITY LIMITS
INDIANAPOLIS BLVD.
NE. 1/4, SEC. 20
NW. 1/4, SEC. 20
RILEY ROAD
I. H. DEPT. RR.
U. S. GYPSON
CANAL STREET
CANAL
SOUTH LINE NE. 1/4, SEC. 20, T. 37 N., R. 4 W.
SEC. 20, T. 37 N., R. 9 W.
PLANT
50S
1100S
2150S
3200S
4250S
5300S
100E
700E
1900E
3100E
4300E

| | | |

E-3000-G-0203



Rg / WELDING BUSINESS UNIT
REFINERY
VAN GRD
E-3000-G-0203

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modification

Source Description and Location

Source Name:	BP Products North America, Inc. - Whiting Business Unit
Source Location:	2815 Indianapolis Blvd., Whiting, IN 46394
County:	Lake
SIC Code:	2911
Operation Permit No.:	T 089-6741-00453
Operation Permit Issuance Date:	January 1, 2007
Significant Source Modification No.:	089-33530-00453
Significant Permit Modification No.:	089-33532-00453
Permit Reviewer:	Kristen Willoughby

On December 14, 2013, the Office of Air Quality (OAQ) had a notice published in the Post Tribune, Merrillville, Indiana and the Times, Munster, Indiana, stating that BP Products North America, Inc. - Whiting Business Unit had applied for a Significant Source and Significant Permit Modification relating to upgrades at the Hazardous Waste Treatment Facility and Wastewater Treatment Plant, required by the Consent Decree filed in US et al vs. BP Products, Inc, 2:12-cv-00207. Additionally, this modification incorporated updates related to the thermal desorption system, which was permitted in SSM 089-25484-00453 but never installed. The notice also stated that OAQ proposed to issue a permit for this modification and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On December 19, 2013, Ms. Natalie Grimmer, on behalf of BP Products North America, Inc. - Whiting Business Unit, submitted comments on the proposed Significant Source and Significant Permit Modification. The summary of the comments is as follows:

Comment 1:

In some instances in the permit and TSD the term “duel” carbon canisters was listed rather than “dual” carbon canisters. The correct term is “dual” carbon canisters.

Response 1:

The following changes have been made as a result of this comment:

D.25.8 Sampling Requirements

(a) Not later than 30 days after the startup of the DNF dewatering system, the Permittee shall sample and determine the molecular weight of the vent exhaust from the ~~duel~~ **dual** carbon canisters controlling the DNF dewatering system. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

(b) The Permittee shall sample and determine the molecular weight of the vent exhaust from the ~~duel~~ **dual** carbon canisters controlling the Tank Cleaning Dewatering System at least once per quarter when the Tank Cleaning Dewatering System is in operation or once per cleaning event, whichever is more frequent.

***

D.26.9 Sampling Requirements

Not later than 30 days after the startup of the Dissolved Nitrogen Floatation (DNF) System, the Permittee shall sample and determine the molecular weight of the vent exhaust from the ~~duel~~ **dual** carbon canisters controlling the Dissolved Nitrogen Floatation (DNF) System. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

Comment 2:

BP has updated the design of the Solids Collection System portion of the project to minimize personnel safety risks with respect to initial construction and long term maintenance. This updated design will also generate less VOC and H2S/TRS emissions than the previous design.

As provided in the air permit application for the Lakefront Upgrades Project, the original design of the Solids Collection System included utilizing two (2) existing API boxes that would have a mixture of fixed and floating covers. These boxes will contain the new J-92 pump lift station (consisting of four pumps). Emissions would have been generated from both the fixed and floating covered box sections. Additionally, the fixed cover portion of the boxes would have contained a vapor space that would need to be vented to a carbon canister system.

In the updated design the new J-92 pump lift station will be installed in two (2) existing API boxes that have been modified into a common dry pit. The system will be fully enclosed and there will no vapor space in these boxes. Thus, there will no emissions generated from these boxes.

New strainers will still be installed downstream of the new lift pumps to remove solids from the wastewater. The most of the emissions in the updated design for the solids collection system are a result of routine maintenance of these strainers. The strainers will be automatically back-flushed into a specially designed roll-off box for off-site disposal. The total VOC emissions are 0.72 tpy.

The updated total (uncontrolled) potential to emit (PTE) VOC from the entire Solids Collection System will be 0.72 tpy.

BP is requesting that the Facility Descriptions in Section D.26(z)(9) and corresponding Condition A.39(z)(9) and the description in Condition D.26.6(b) be updated to reflect this updated design. BP is also requesting that the Solids Collection System be removed from Conditions D.26.8(a) & D.26.8(b) as no carbon canister system is needed, since there will be no vapor stream generated from the boxes due to the system now being enclosed.

Response 2:

The SSM No. 089-33530-00453 and SPM No. 089-33532-00453 have been updated as follows to reflect that the Solids Collection System which was originally proposed will not be constructed. All limits, compliance determination, compliance monitoring, record keeping or reporting associated with the proposed Solids Collection System have been removed. The new Solids Collection System has a potential to emit less than the source modification thresholds specified in 326 IAC 2-7-10.5 and can be added to the permit through an Administrative Amendment pursuant to 326 IAC 2-7-11(a)(8)(B), because it incorporates an insignificant activity as defined in 326 IAC 2-7-1(21). Therefore, the New Solids Collection System in being incorporated in the permit as part of this ATSD. Updated emission calculations are included as Appendix A and Appendix B to this ATSD.

Permit Changes:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

***

(z) Wastewater Treatment Plant (WWTP), identified as Unit ID 544. This facility treats the water used in the refining process that comes into contact with oil or chemicals. In the first step, the heavier solids are removed at the inlet to the WWTP and the floating oil is skimmed from the surface of the wastewater in the API separator boxes. The oil is then recycled back to the refinery. The water is then aerated in the Air Flotation Unit where additional solid impurities are floated and skimmed. As part of the Lakefront Upgrades (LFU) Project, approved in 2014 for modification, the larger solids in the wastewater will be removed in the new Solids Collection System. Then the wastewater will be routed to tanks TK-5050, TK-5051 and TK-5052, which will operate in parallel and serve as oil-water separators, equalization, and stormwater surge. Floating oil will be separated and skimmed from the tanks and recycled. The water will be routed to the new Dissolved Nitrogen Floatation (DNF) Units to remove suspended solids and oil, which will be floated and skimmed. Thereafter, it moves to the Activated Sludge Plant where special bacteria digest the remaining contaminants. The water then passes through a clarifier and then final filters before being returned to Lake Michigan. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

***

(9) One (1) Solids Collection System, which ~~vents to a duel carbon canister system and~~ consists of the J-92 pump lift station and strainer backwash system, with a storage capacity of ~~318,434~~ **5,257** gallons, constructed as part of the Lakefront Upgrades Project.

SECTION D.26 FACILITY OPERATION CONDITIONS - Wastewater Treatment Plant

Facility Description [326 IAC 2-7-5(14)]:

(z) Wastewater Treatment Plant (WWTP), identified as Unit ID 544. This facility treats the water used in the refining process that comes into contact with oil or chemicals. In the first step, the heavier solids are removed at the inlet to the WWTP and the floating oil is skimmed from the surface of the wastewater in the API separator boxes. The oil is then recycled back to the refinery. The water is then aerated in the Air Flotation Unit where additional solid impurities are floated and skimmed. As part of the Lakefront Upgrades (LFU) Project, approved in 2014 for modification, the larger solids in the wastewater will be removed in the new Solids Collection System. Then the wastewater will be routed to tanks TK-5050, TK-5051 and TK-5052, which will operate in parallel and serve as oil-water separators, equalization, and stormwater surge. Floating oil will be separated and skimmed from the tanks and recycled. The water will be routed to the new Dissolved Nitrogen Floatation (DNF) Units to remove suspended solids and oil, which will be floated and skimmed. Thereafter, it moves to the Activated Sludge Plant where special bacteria digest the remaining contaminants. The water then passes through a clarifier and then final filters before being returned to Lake Michigan. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

***

(9) One (1) Solids Collection System, which ~~vents to a duel carbon canister system and~~ consists of the J-92 pump lift station and strainer backwash system, with a storage capacity of ~~318,434~~ **5,257** gallons, constructed as part of the Lakefront Upgrades Project.

***

D.26.6 Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System, constructed as part of the Lakefront Upgrades Project, shall not exceed 10.4 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

~~(b) The VOC emissions from the Solids Collection System, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.87 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

(~~c~~**b**) By no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, constructed as a part of the Lakefront Upgrades Project, emissions from TK-562 shall be routed to a carbon canister control device that meets all applicable control and/or treatment requirements under the Benzene Waste Operations NESHAP.

Compliance with the VOC emissions limits, in conjunction with the emissions limits in Condition D.25.1,shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

***

D.26.8 VOC Control

(a) In order to ensure compliance with Condition D.26.6, the carbon canisters for VOC control shall be in operation and control emissions from the Dissolved Nitrogen Floatation (DNF) System~~, Solids Collection System,~~ and TK-562 at all times the DNF~~, Solids Collection System,~~ and TK-562 are in operation.

(b) Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraphs 52.a.i and ii, of section J of the Consent Decree entered in Civil No. 2:12-CV-00207, the vapor recovery and carbon canister systems for the Dissolved Nitrogen Floatation (DNF) System~~, Solids Collection System,~~ and TK-562 shall consist of primary and secondary carbon canisters, operated in series (the “dual-canister” option). BP may comply with the requirements of the dual canister option required under sub-paragraph by using a single canister with a “dual carbon bed” if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with the following:

***

~~(d) In order to demonstrate compliance with Condition D.26.6(b), monthly emissions from the Solids Collection System shall be calculated as follows:~~

~~VOC Emissions (ton/month) = [(N * $EF_{WORKING}$) + $E_{STANDING}$] / 2000 (lb/ton)~~

~~where:~~

~~N = number of roll off boxes generated from the Solids Collection System J-92 strainer backwash system per month;~~
~~$EF_{WORKING}$ (lbs VOC / roll off box) = working loss VOC emission factor, 3.70 lbs VOC / roll off box; and~~
~~$E_{STANDING}$ (lbs VOC / month) = standing loss VOC emissions, 3.78 lbs VOC / month.~~

***

D.26.11 Record Keeping Requirements

***

~~(e) In order to demonstrate the compliance status with Condition D.26.6(b), the Permittee shall maintain records in accordance with (1) through (2) below. Records maintained for (1) through (2) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC limit established in Condition D.26.6(a):~~

~~(1) The number of roll off boxes generated from the Solids Collection System J-92 strainer backwash system per month.~~

~~(2) The VOC emissions from the Solids Collection System (ton/month).~~

(~~f~~**e**) ***

(~~g~~**f**) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraphs (c), (d), **and** (e)~~, and (f)~~ of this condition.

TSD Changes:

The following sections of the TSD have been shown here to present the effect of removing the proposed Solids Collection System and replacing it with the new Solids Collection System.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by BP Products North America, Inc. - Whiting Business Unit on August 15, 2013, relating to upgrades at the Hazardous Waste Treatment Facility and Wastewater Treatment Plant, required by the Consent Decree filed in US et al vs. BP Products, Inc, 2:12-cv-00207. Additionally, this modification incorporates updates related to the thermal desorption system, which was permitted in SSM 089-25484-00453 but never installed. The following is a list of the proposed and modified emission units and pollution control devices:

New Units:

Hazardous Waste Treatment System Units:

(a) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(b) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters

Wastewater Treatment Plant Units:

(c) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(1) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(2) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(d) One (1) Solids Collection System, ~~which vents to a dual carbon canister system and~~ consists of the J-92 pump lift station and strainer backwash system, approved in 2014 for construction, with a storage capacity of ~~318,434~~ **5,257** gallons, constructed as part of the Lakefront Upgrades Project.

(e) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(f) Sewer components associated with the Lakefront Upgrades Project.

Modified and Affected Units:

(g) The following tanks will now be oil-water separation, equalization, and stormwater surge tanks instead of storage tanks: TK-5050, TK-5051, and TK-5052. Additionally, TK-5050 is being equipped with an external floating roof.

(h) TK-562 solids tank, an existing fixed-roof storage tank located at the WWTP, will experience an increase in throughput as a result of the Lakefront Upgrades Project. Additionally, as a part of the project, emissions from the tank will be routed to a closed vent and carbon canister system.

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Increase in PTE Before Controls of the Modification New Emission Units	
Pollutant	Potential To Emit (ton/yr)
PM	-
PM_{10}	-
$PM_{2.5}$	-
SO_2	-
VOC	~~389.23~~ **370.66**
CO	-
NO_X	-
Single HAPs	>10
Total HAPs	>25

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

This source modification is subject to 326 IAC 2-7-10.5(g)(4), modifications with a potential to emit greater than or equal to 25 tons per year of VOC. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because it does require a case-by-case emission limitation and significant changes to compliance determination and monitoring.

Permit Level Determination – PSD or Emission Offset or Nonattainment NSR

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (ton/yr)								
Process / Emission Unit	PM	PM_{10}	$PM_{2.5}$*	SO_2	VOC	CO	NO_X	GHGs	H2S/TRS
New Units									
Equipment Leaks	-	-	-	-	2.70	-	-	-	0.01
Sewers	-	-	-	-	5.33	-	-	-	0.02
DNF	-	-	-	-	10.40	-	-	-	0.94
Solids Collection	-	-	-	-	~~0.87~~ **0.72**	-	-	-	~~0.04~~ **3.28E-04**
DNF Dewatering System	-	-	-	-	7.26	-	-	-	-
Tank Cleaning and Dewatering System	-	-	-	-	0.49	-	-	-	-
Total for New Units	-	-	-	-	~~27.02~~ **26.88**	-	-	-	~~1.01~~ **0.98**

	Potential to Emit (ton/yr)								
Process / Emission Unit	PM	PM_{10}	$PM_{2.5}$*	SO_2	VOC	CO	NO_X	GHGs	H2S/TRS
Baseline for Affected Units	-	-	-	-	7.42	-	-	-	0.008
Potential Emissions for Affected Units	-	-	-	-	1.37	-	-	-	0.006
Potential-Baseline Emissions	-	-	-	-	<0	-	-	-	<0
Emissions Increase Due to Project	-	-	-	-	~~27.02~~ **26.88**	-	-	-	~~1.01~~ **0.98**
Significant Level - PSD	25	15	10	40	-	100	40	75,000 CO_2e	10
Significant Level - EO	-	-	-	-	40	-	40	-	-

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

No change will be made to the original TSD. The OAQ prefers that the TSD reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Appendix A: Emissions Calculations
Table 1 - Lakefront Upgrades Project
Potential to Emit PSD / Emission Offset Determination
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Pollutant	New Emissions Units[1]						Modified Emission Units[2]	Hybrid Test Project Emissions Increase (tpy)	PSD Significance Level (tpy)	Emission Offset Significance Level (tpy)[3]	NSR / PSD Review Required?
	PTE Fugitives - Equipment Leaks (tpy)	PTE Fugitives - Sewers (tpy)	Limited PTE - DNF (tpy)	Limited PTE - Solids Collection (tpy)	Limited PTE - DNF Dewatering System (tpy)	Limited PTE - Tank Cleaning Dewatering System (tpy)	Actual-to-Potential Emissions Increase -TK-5050 (tpy)				
VOC	2.70	5.33	10.4	0.72	7.3	0.5	0.00	26.88	-	40	No
NO_x	-	-	-	-	-	-	-	-	40	40	No
PM	-	-	-	-	-	-	-	-	25	-	No
PM_{10}	-	-	-	-	-	-	-	-	15	-	No
$PM_{2.5}$	-	-	-	-	-	-	-	-	10	-	No
SO_2	-	-	-	-	-	-	-	-	40	-	No
CO	-	-	-	-	-	-	-	-	100	-	No
H_2SO_4	-	-	-	-	-	-	-	-	7	-	No
Pb	-	-	-	-	-	-	-	-	0.6	-	No
H_2S/TRS	0.01	0.02	0.94	3.28E-04	-	-	0.00	0.98	10	-	No
CO_2e	-	-	-	-	-	-	-	-	75,000	-	No

[1] New emission units include some existing units which have been repurposed as part of this project. Therefore, these units are treated like new units.

[2] For TK-5050, the LFU Project will reduce the future VOC emissions from the tank. Therefore, there will be no emissions increase from TK-5050 as a result of the project.
For TK-562, the future potential VOC emissions from the tank will be lower than the current actual emissions. Therefore, there will be no emissions increase from TK-562 as a result of the project.

[3] U.S. EPA has designated Lake County, Indiana as marginal nonattainment for ozone. VOC and NOx information is presented here for the purpose of an evaluation with respect to the 8-hour ozone standard.

Appendix A: Emissions Calculations
Table 2 - Lakefront Upgrades Project
Potential to Emit Part 70 Permit Level Determination
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Pollutant	Potential to Emit of New and Modified Units[1]							Total (tpy)	Minor Source Modification Level[2] (tpy)	Significant Source Modification Level[3] (tpy)
	Fugitive Emissions - Equipment Leaks (tpy)	Fugitive Emissions - Sewers (tpy)	DNF (tpy)	Solids Collection (tpy)	TK-5050[4] (tpy)	DNF Dewatering System (tpy)	Tank Cleaning Dewatering System (tpy)			
VOC	2.70	5.33	206.96	0.72	-	145.20	9.75	370.66	10	25
NO_x	-	-	-	-	-	-	-	-	10	25
PM	-	-	-	-	-	-	-	-	5	25
PM_{10}	-	-	-	-	-	-	-	-	5	25
$PM_{2.5}$	-	-	-	-	-	-	-	-	5	25
SO_2	-	-	-	-	-	-	-	-	10	25
CO	-	-	-	-	-	-	-	-	25	100
H_2S/TRS	1.23E-02	0.02	0.94	3.28E-04	-	-	-	0.98	5	25
CO_2e	-	-	-	-	-	-	-	-	75,000	100,000

[1] Potential to emit is determined based upon the new equipment being installed by the LFU Project.

[2] Per 326 IAC 2-7-10.5(e)(3)(B)(iii) and 326 IAC 2-7-10.5(e)(9)(A), any modification with a potential to emit of greater than 10 tpy or 15 lbs/day of VOC shall be processed in accordance with the minor source modification provisions of 326 IAC 2-7-10.5(f).

Per 326 IAC 2-7-10.5(e)(3)(F)(i), any modification with a potential to emit of greater than 5 tpy hydrogen sulfide shall be processed in accordance with the minor source modification provisions of 326 IAC 2-7-10.5(f).

[3] Per 326 IAC 2-7-10.5(g)(4)(D) or (E), any modification with a potential to emit of greater than 25 tpy of VOC or hydrogen sulfide shall be processed in accordance with the significant source modification provisions of 326 IAC 2-7-10.5(h).

[4] For TK-5050, the LFU Project will reduce the future VOC emissions from the tank. Therefore, there will be no emissions increase from TK-5050 as a result of the project.

Appendix A: Emissions Calculations
Table 3 - Lakefront Upgrades Project
Potential to Emit VOC Equipment Leaks
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

LDAR Program: Monitoring per 326 IAC 8-4-8 [1]
Factor Type: Refinery Screening (EPA Emission Factors EPA-453/R-95-017, Table 2-6)
Annual Hours of Service: 8760

Component Type	Estimated Component Count [3]	EPA 'Refinery Screening' Factors LEAK (lb/hr/component)	EPA 'Refinery Screening' Factors NO LEAK (lb/hr/component)	Percent Leak	Maximum Uncontrolled Emission Rate (lbs/hr)	LDAR Control Efficiency [2]	Percent in VOC Service	Total VOC Emissions (Tons/yr)	Total VOC Emissions (lbs/day)
Valves									
Gas/Vapor	0	0.5789	0.0013	2.0%	0.0000	30%	100%	0.00	0.00
Light Liquid	100	0.1878	0.0037	2.0%	0.7382	30%	100%	2.26	12.40
Heavy Liquid	0	0.00051	0.00051	2.0%	0.0000	30%	100%	0.00	0.00
Pumps									
Light Liquid - Single Seal [2]	0	0.9630	0.0265	2.0%	0.0000	30%	100%	0.00	0.00
Light Liquid - Dual Seal [4]	8	0.9630	0.0265	2.0%	0.3618	100%	100%	0.00	0.00
Heavy Liquid	0	0.8565	0.02976	2.0%	0.0000	30%	100%	0.00	0.00
Flanges[5]									
Gas/Vapor	0	0.0827	0.00013	0.3%	0.0000	30%	100%	0.00	0.00
Light Liquid	378	0.0827	0.00013	0.3%	0.1428	30%	100%	0.44	2.40
Heavy Liquid	0	0.0827	0.00013	0.3%	0.0000	30%	100%	0.00	0.00
Compressors [4]	0	3.545	0.1971	2.0%	0.0000	100%	100%	0.00	0.00
Relief Valves [6]	5	3.728	0.0985	2.0%	0.8555	100%	100%	0.00	0.00
Open-ended Lines	0	0.02635	0.0033	2.0%	0.0000	0%	100%	0.00	0.00
Sampling Connections [7]	3	0.0827	0.00013	2.0%	0.0053	100%	100%	0.00	0.00
							Total VOC Emissions:	**2.70**	**14.80**

[1] Equipment installed as a part of the Lakefront Upgrades Project will comply with Indiana leak detection and repair (LDAR) standards (pursuant to 326 IAC 8-4-8).

Per BP Whiting's 326 IAC 8-4-8 LDAR program, valves in liquid service are monitored annually at a leak definition of 10,000 ppm. Additionally, AVO work practices apply to all equipment that is in VOC and/or HAP service.

[2] 30% control estimate is per TCEQ Guidance "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives" (October 2000).

[3] Estimates are based upon the preliminary project equipment list and assumptions provided by the Lakefront Upgrades Project team in May 2013. Emissions from components not "in VOC service" are considered negligible.

[4] Light liquid pumps and compressors will have dual mechanical seals with a barrier fluid maintained at a higher pressure than the pumped fluid or compressed gas. The control efficiency of dual mechanical seals is 100%, per Table 5-1 in EPA-453/R-95-017

[5] Assumed number of flanges / connectors per valve is 3.5, based on Appendix A of API publication # 343.

[6] RV discharge from the pumps will be routed to the pump's suction line during normal operations, as such the control efficiency is assumed to be 100%.

[7] Any new sample connections installed will be closed-loop systems. The efficiency of a closed-loop system is assumed to be 100% per section 5.2.8 in EPA-453/R-95-017 Protocol for Equipment Leak Emissions Estimates.

Appendix A: Emissions Calculations
Table 4 - Lakefront Upgrades Project
Potential to Emit VOC Sewer Components
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Component Type[1]	No. of Components[2]	VOC Emission Factor[3]		Emissions (kg/hr)
Controlled Drains	37	0.35	kg/day/unit	0.53
Sealed Manholes	3	0.16	kg/day/unit	0.02

Total VOC Emissions:	kg/hr	0.55
	lb/d	29.23
	lb/yr	10,668
	TPY	**5.3**

[1] As a part of the LFU project, BP will also construct paving drains, junction boxes and cleanouts in stormwater service. Components servicing only stormwater are expected to have negligible emissions, thus only process sewer components are included in this analysis.

[2] Process sewer component estimates provided by Jacobs Engineering for the project in June 2013.

[3] Emission factor references per component type:

Component Type	VOC Emissions Factor per Component	Units	Source[4]	Ref.
Uncontrolled Drain	0.69	kg/day/unit	AP-42 (e.g. 450/650)	Table 5.1-3
Controlled Drain (with water trap – 50% control of AP-42)	0.35	kg/day/unit	BIDa	Pg. 4-9
Uncontrolled Junction Box (same as an Uncontrolled Drain)	0.69	kg/day/unit	AP-42 (ref. BIDa)	Pg. 3-27
Sealed Manway Cover (gasketed – 77% of AP-42)	0.16	kg/day/unit	BIDb	Pg. 2-23

[4]Notes:

BIDa - Background Information Document to Proposed NSPS QQQ, Feb. 1985.

BIDb - Background Information Document to Proposed NSPS QQQ, Dec. 1987.

AP-42 - AP 42, Fifth Edition, Volume I Chapter 5.1 Petroleum Refining, Jan. 1995.

Appendix A: Emissions Calculations
Table 5 - Lakefront Upgrades Project
Potential to Emit H2S / TRS Equipment Leaks and Sewer Components
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Emissions Source	VOC Emissions (tpy)[1]	H_2S Emission Factor (lb H_2S/lb VOC)[2]	H_2S/TRS Emissions (tpy)[3]
Fugitive Equipment Leaks	2.7	0.0046	0.0123
Sewer Fugitives	5.3		0.024
		TOTAL H_2S (tpy):	**0.0366**

[1] Potential H_2S/TRS emissions are estimated using the calculated VOC leak rate and assuming a percentage of the emitted material is in the form of H_2S/TRS. Refer to Table 3 for calculation of fugitive VOC from new LDAR components and Table 4 for fugitive VOC from new sewer components.

[2] H_2S emission factor was obtained from the ratio of the calculated H_2S emission rate (lb/hr) to VOC emission rate (lb/hr) generated using WATER9 for the DNF potential case.

[3] H_2S emissions are assumed equivalent to emissions of total reduced sulfur (TRS), as H_2S is expected to be the only reduced sulfur compound present in appreciable quantity.

Appendix A: Emissions Calculations
Table 6a - Lakefront Upgrades Project
Potential to Emit VOC and H2S Dissolved Nitrogen Floatation Units
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Floatation Units - T-310, T-320, T-330, T-340[1]

Inputs to WATER9:

Untreated Wastewater Flow[2]			Recycle Water Flow[2]	Oil and Grease In[4]	Oil and Grease Out	Nitrogen Rate[3]
gpm	10^6 gal/yr	MGD	gpm	ppmw	ppmw	scfh
18,750	9,855	27	4,000	1,000	30	1634

Emission Results:

Pollutant	Concentration In[4]	Concentration Out[4]	Total Load to Control Device		Control Efficiency[5]	Emissions to Atmosphere	
	ppmw	ppmw	lb/hr	tpy	%	lb/hr	tpy
VOC	814.10	799.45	41.71	182.7	95.00	2.1	9.1
H2S	16.00	15.93	0.19	0.8	0.00	0.2	0.8

[1] Potential emissions are calculated for four (4) DNF units operated in parallel.

[2] The total untreated wastewater and recycle flow rate for 4 DNF units are based on a maximum annual average flow of 27 million gallons per day (MGD).

[3] Total nitrogen rate, including the nitrogen used for floatation and for purging the vapor space.

[4] Values are generated using WATER9, assuming the peak design case for oil and grease (1000 mg/L) and temperature (104.62 °F) from historical data. Refer to Appendix C for additional details. The total suspended solids (TSS) and total dissolved solids (TDS) of 1000 and 1140 mg/L, respectively, in the untreated wastewater are provided from the project design basis.

[5] Pursuant to 40 CFR 61.349(a)(2)(iv)(b), the control device will achieve an emission control efficiency of either 95 percent or greater for organic compounds.

DNF - Maintenance Operations

VOC Concentration[1] (%)	1%
Design Release Rate per DNF unit (scfm)	232
Release Time (min)	12
Frequency of Releases[2]	8
Molecular Weight (lbs/lb-mol)	90
R Conversion (ft3/lb-mol)	379.48
Uncontrolled VOC (lb/hr) per DNF per Event	**33.01**
Uncontrolled H2S (lb/hr) per DNF per Event[3]	**0.150**
Uncontrolled VOC (tpy) Total for all DNFs	**0.026**
Uncontrolled H2S (tpy) Total for all DNFs	**0.00012**

[1] Per the project design basis, the VOC concentration would be 1% of the vapor stream with a molecular weight 90.

[2] Operations expects the DNF units will need to be taken down for maintenance semi-annually.

[3] The same ratio of VOC to H2S for fugitive emissions is applicable to maintenance activities.

Appendix A: Emissions Calculations
Table 6b - Lakefront Upgrades Project
Potential to Emit VOC and H2S Float Tanks
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Float Handling Tanks - TK-303 and TK-304[1]

Inputs to TANKS:

Diameter	14	feet
Height	11	feet
Maximum Liquid Height	7	feet
Average Liquid Height	6	feet
Storage Capacity	12,666	gallons each tank
	25,332	gallons total
Working Volume	8,060	gallons each tank
	16,120	gallons total
Throughput[1]	92,162,500	gal/yr each tank
Throughput	0.25	MGD
Turnovers[1]	11,434	per year

[1] Net throughput per year is based on the average case for vendor's guarantee at 3% solids and oil and grease in the float.
Assumes 31.3 turnovers per day, or 11,434 turnovers per year.

Emission Results:

Pollutant	TK-303	TK-304	Total Load to Control Device		Control Efficiency[2]	Emissions to Atmosphere	
	lb/hr	lb/hr	lb/hr	tpy	%	lb/hr	tpy
VOC	2.77	2.77	5.54	24.24	95.00	0.28	1.21
H2S[3]	0.013	0.013	0.025	0.11	0	0.025	0.11

[1] Potential emissions are generated from TANKS for two (2) new fixed cover float tanks using the inputs provided above. Refer to Appendix C for results from the model.

[2] Pursuant to 40 CFR 61.349(a)(2)(iv)(b), the control device will achieve an emission control efficiency of either 95 percent or greater for organic compounds.

[3] TANKS is not set up to allow estimation of H2S emissions. The ratio of H2S and VOC calculated, based on the total H2S flowrate (lb/hr) to total VOC vapor flowrate (lb/hr) generated using WATER9 for DNF potential emissions, is used (similar to fugitive emissions for equipment leaks and sewers).

Appendix A: Emissions Calculations
Table 7 - Lakefront Upgrades Project
Potential to Emit VOC and H2S #7 API Separator - Solids Collection System
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

#7 API Separator - Solids Collection System - Potential to Emit[1]

Maintenance Emissions - Collection of Solids in a Roll-Off Box[2]

Parameter	Working Losses	Standing Losses
Venting Rate (scfm)[3]	670	1
VOC Concentration (ppmv)[3]	10,000	5,000
Molecular Weight of VOC (lb/lbmol)[3]	80	80
Potential Backwashes per Year - Normal Operation[3]	487	--
Potential Backwashes per Year - High Rain Events[3]	140	--
VOC Emissions (tpy)	0.44	0.28

[1] Two (2) existing API boxes will be converted to function as the new Solids Collection System. A new pump lift station (consisting of four pumps) will be installed in the two existing API boxes, which will be modified into a common dry pit. There will be no emissions generated from the dry pit. Emissions are anticipated as a result of maintenance activities associated with flushing the Solids Collection System strainers to fixed-cover roll-off boxes.

[2] Emissions are anticipated when the vapor is exhausted from the roll-off box vent during backwash of the strainers (working losses). Potential to emit VOC is calculated by assuming strainer backwashes occur every 18 hours during normal operations and every 2 hours during high rain events. The duration of each backflush is one (1) minute. Additionally, VOC emissions will escape from the roll-off box vent as standing losses when a backflush event is not occurring. Standing losses are assumed to occur for 8,760 hours per year.

[3] Design parameters provided by the Lakefront Upgrades Project team on January 7, 2014.

Potential to Emit Summary

Pollutant	Maintenance	Emissions to Atmosphere	
	lbs/year	lb/hr[5]	tpy
VOC	1,439.54	3.94	0.72
H_2S[4]	6.56	0.02	3.28E-04

[4] The ratio of H_2S and VOC calculated, based on the total H_2S flowrate (lb/hr) to total VOC vapor flowrate (lb/hr) generated using WATER9 for DNF potential emissions, is used (similar to fugitive emissions for equipment leaks and sewers).

[5] Hourly emission rate represents annual average hourly emissions.

Appendix A: Emissions Calculations
Table 8 - Lakefront Upgrades Project
Potential to Emit VOC from Tank Cleaning Dewatering Systems
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Mass Balance Emissions Calculation:

	DAF Float	API Sludge
Method 8270 (SVOCs)	mg/kg	mg/kg
Anthracene	9.9	20.4
Chrysene	16.5	20.3
Naphthalene	149	24.2
Phenanthrene	97.7	19.3
Pyrene	30.95	17.9
Total SVOCs	**304.05**	**102.04**
Method 8260 (VOC)		
Benzene	110	10.4
Ethylbenzene	245	29.0
Toluene	530	31.3
Xylenes	700	94.1
Total VOC	**1585**	**164.82**

Conversion Factors	
Density of Water (lb/gal)	8.34
Conversion Factor (lb/g)	0.0022
Conversion Factor (mg/g)	1000
Conversion Factor (g/kg)	1000

[1] DAF Float results are maximum values from sludge analytical data from 2000 to 2002 documented in Hazardous Waste Combustor MACT Performance Test Plans
[2] API sludge results are average values from sludge analytical data from 2000 to 2006 documented in I:\ENVIRONMENTAL\Waste\WAS-FBI\FBI_data\Historical FBI Feed Analytical Data (2).xls.

DNF Dewatering System:

Future Annual Average Throughput (gal/day)[1]		505,000
Future Annual Average Throughput (GPM)[1]		350.69
	Feed Rate Capacity (lb/day)	4,211,700
	Feed Rate Capacity (ton/yr)	768,635
Total SVOCs (lb/lb)		0.00030
Total VOCs in Feed (lb/lb)		0.00159
Potential SVOC and VOC throughput (lb/lb)[2]		0.00189
VOC Control Efficiency (%)[3]		95%
Percentage of Volatile Material Processed Emitted at Dewatering (%)[4]		10%
Total Potential Uncontrolled SVOC and VOC emissions (lbs/day)		795.61
Total Potential Controlled SVOC and VOC emissions (lbs/day)		**39.78**
Total Potential Uncontrolled SVOC and VOC emissions (tpy)		145.20
Total Potential Controlled SVOC and VOC emissions (tpy)		**7.26**

[1] Future maximum annual average throughput based on the DNF peak TSS and peak Oil and Grease design case.
[2] Sum of SVOCs and VOCs in DAF float feed.
[3] Based on 40 CFR 61, Subpart FF requirements; Note that carbon actually provides a 99.9% control efficiency if monitored for breakthrough and changed after breakthrough is detected (per carbon system vendors); however, 95% used as a conservative measure in the calculations.
[4] Engineering estimate based on relative non-volatility of material remaining in sludges after processing steps prior to dewatering system. Note that most of the oil will be recovered in the dewatering system.

Dewatering System / Tank Cleaning Centrifuge System:

Maximum Annual Average Throughput (gal/day)[1]		240,000
Future Annual Average Throughput (GPM)[1]		166.67
	Feed Rate Capacity (lb/day)	2,001,600
	Feed Rate Capacity (ton/yr)	365,292
Total SVOCs (lb/lb)		0.000102
Total VOCs in Feed (lb/lb)		0.000165
Potential SVOC and VOC throughput (lb/lb)[2]		0.000267
VOC Control Efficiency (%)		95%
Percentage of Volatile Material Processed Emitted at Dewatering (%)		10%
Total Potential Uncontrolled SVOC and VOC emissions (lbs/day)		53.42
Total Potential Controlled SVOC and VOC emissions (lbs/day)		**2.67**
Total Potential Uncontrolled SVOC and VOC emissions (tpy)		9.75
Total Potential Controlled SVOC and VOC emissions (tpy)		**0.49**

[1] The centrifuge system for the tank cleaning process is based on the removal of 3' of sludge in each tank (12' total) at 2% solids.
[2] Sum of SVOCs and VOCs in feed. It is assumed the tank sludge is similar in composition to the sludge from the #7 API Separator.

Appendix A: Emissions Calculations
Table 9 - Lakefront Upgrades Project
Baseline and Potential VOC and H2S Emissions for TK-5050
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Inputs to WATER9:

Baseline Period	Untreated Wastewater Flow[1]			Oil Flow Rate	Oil and Grease In
	gpm	10^6 gal/yr	MGD	bbl/day	ppmw
January 2008 - December 2009	208.54	109.61	0.30	31.78	3418

[1] Baseline VOC emissions from TK-5050 are calculated based on the average annual flow for the 24-month period from January 2008 to December 2009.

[2] Dimensions for TK-5050 were inputted into WATER9 as follows:

Diameter	220	feet	
Height	40	feet	
Normal Level	28	feet	*(in equalization service)*
Tank Vapor Space Height	3.66	m	*(in equalization service)*
Open Surface Area of Tank	38,013.3	ft2	

Emission Results:

Pollutant	Concentration In[3]	Concentration Out[3]	Emissions to Atmosphere	
	ppmw	ppmw	lb/hr	tpy
VOC	3011.44	2995.17	1.69	7.42
H2S	0.02	0.0065	0.0018	0.008

[3] Baseline emissions are calculated for an open-top tank in WATER9. Refer to Appendix C for detailed results from the model.

TK-5050 Oil/Water Separator - Potential to Emit

Inputs to TANKS[1]

Diameter	220	feet	Operating Volume[2]	760,265	ft3
Height of Tank	40	feet		5,687,545.62	gal
Level Change[2]	20	feet	Annual Throughput[3]	1,037,977,076	gal/yr
Turnovers[2]	183			2.84	MGD

[1] Potential emissions are generated using TANKS 4.09d for an external floating roof tank. Refer to Appendix C for results from the model.

[2] The emissions are based on a 20 ft. level change on a daily basis for the 220 ft. diameter tank (very conservative based on previously recorded operation of the tank). The operating volume is calculated based on the 20 ft. level change. and the resulting number of turnovers is 183 turnovers/year.

[3] The potential annual throughput is calculated from the operating volume and number of turnovers.

Emission Results:

Pollutant	Emissions to Atmosphere		Baseline to Potential[4]
	lb/hr	tpy	tpy
VOC	0.31	1.37	0.00
H2S	0.0014	0.0063	0.00

[4] Baseline to potential comparison indicates there will be no emissions increase from TK-5050 as a result of the project.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	T-303
City:	Chicago
State:	Illinois
Company:	British Petroleum
Type of Tank:	Vertical Fixed Roof Tank
Description:	DNF float tank #1

Tank Dimensions

Shell Height (ft):		11.00
Diameter (ft):		14.00
Liquid Height (ft) :		7.00
Avg. Liquid Height (ft):		5.50
Volume (gallons):		8,060.17
Turnovers:		11,434.31
Net Throughput(gal/yr):		92,162,500.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		2.00
Slope (ft/ft) (Cone Roof)		0.29

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Chicago, Illinois (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-303 - Vertical Fixed Roof Tank
Chicago, Illinois

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	50.66	45.76	55.55	49.02	1.3000	1.3000	1.3000	50.0000			189.82	Option 1: VP50 = 1.3 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-303 - Vertical Fixed Roof Tank
Chicago, Illinois

Annual Emission Calcaulations	
Standing Losses (lb):	97.5356
Vapor Space Volume (cu ft):	949.2846
Vapor Density (lb/cu ft):	0.0119
Vapor Space Expansion Factor:	0.0338
Vented Vapor Saturation Factor:	0.7018
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	949.2846
Tank Diameter (ft):	14.0000
Vapor Space Outage (ft):	6.1667
Tank Shell Height (ft):	11.0000
Average Liquid Height (ft):	5.5000
Roof Outage (ft):	0.6667
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.6667
Roof Height (ft):	2.0000
Roof Slope (ft/ft):	0.2900
Shell Radius (ft):	7.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0119
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg. R):	510.3272
Daily Average Ambient Temp. (deg. F):	49.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	508.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,225.5876
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0338
Daily Vapor Temperature Range (deg. R):	19.5858
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg R):	510.3272
Daily Min. Liquid Surface Temp. (deg R):	505.4307
Daily Max. Liquid Surface Temp. (deg R):	515.2236
Daily Ambient Temp. Range (deg. R):	19.1000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7018
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.3000

Vapor Space Outage (ft):	6.1667
Working Losses (lb):	24,146.2956
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Annual Net Throughput (gal/yr.):	92,162,500.0000
Annual Turnovers:	11,434.3122
Turnover Factor:	0.1693
Maximum Liquid Volume (gal):	8,060.1700
Maximum Liquid Height (ft):	7.0000
Tank Diameter (ft):	14.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	24,243.8312

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-303 - Vertical Fixed Roof Tank
Chicago, Illinois

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BP Normal Oil	24,146.30	97.54	24,243.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	T-304
City:	Chicago
State:	Illinois
Company:	British Petroleum
Type of Tank:	Vertical Fixed Roof Tank
Description:	DNF float tank #2

Tank Dimensions

Shell Height (ft):	11.00
Diameter (ft):	14.00
Liquid Height (ft) :	7.00
Avg. Liquid Height (ft):	5.50
Volume (gallons):	8,060.17
Turnovers:	11,434.31
Net Throughput(gal/yr):	92,162,500.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	2.00
Slope (ft/ft) (Cone Roof)	0.29

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Chicago, Illinois (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-304 - Vertical Fixed Roof Tank
Chicago, Illinois

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	50.66	45.76	55.55	49.02	1.3000	1.3000	1.3000	50.0000			189.82	Option 1: VP50 = 1.3 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-304 - Vertical Fixed Roof Tank
Chicago, Illinois

Annual Emission Calcaulations

Standing Losses (lb):	97.5356
Vapor Space Volume (cu ft):	949.2846
Vapor Density (lb/cu ft):	0.0119
Vapor Space Expansion Factor:	0.0338
Vented Vapor Saturation Factor:	0.7018
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	949.2846
Tank Diameter (ft):	14.0000
Vapor Space Outage (ft):	6.1667
Tank Shell Height (ft):	11.0000
Average Liquid Height (ft):	5.5000
Roof Outage (ft):	0.6667
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.6667
Roof Height (ft):	2.0000
Roof Slope (ft/ft):	0.2900
Shell Radius (ft):	7.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0119
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg. R):	510.3272
Daily Average Ambient Temp. (deg. F):	49.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	508.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,225.5876
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0338
Daily Vapor Temperature Range (deg. R):	19.5858
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg R):	510.3272
Daily Min. Liquid Surface Temp. (deg R):	505.4307
Daily Max. Liquid Surface Temp. (deg R):	515.2236
Daily Ambient Temp. Range (deg. R):	19.1000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7018
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.3000

Vapor Space Outage (ft):	6.1667
Working Losses (lb):	24,146.2956
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Annual Net Throughput (gal/yr.):	92,162,500.0000
Annual Turnovers:	11,434.3122
Turnover Factor:	0.1693
Maximum Liquid Volume (gal):	8,060.1700
Maximum Liquid Height (ft):	7.0000
Tank Diameter (ft):	14.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	24,243.8312

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-304 - Vertical Fixed Roof Tank
Chicago, Illinois

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BP Normal Oil	24,146.30	97.54	24,243.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	T5050 (Future) 1
City:	Whiting (Future)
State:	Indiana
Company:	British Petroleum
Type of Tank:	External Floating Roof Tank
Description:	Tank 5050 Future Potential based on 183 turnovers/year

Tank Dimensions

Diameter (ft):	220.00
Volume (gallons):	5,687,545.62
Turnovers:	183.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Liquid-mounted
Secondary Seal	Weather Shield

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Whiting (Future), Indiana (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T5050 (Future) 1 - External Floating Roof Tank
Whiting (Future), Indiana

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	106.28	104.82	107.74	104.64	1.3000	N/A	N/A	50.0000			189.82	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T5050 (Future) 1 - External Floating Roof Tank
Whiting (Future), Indiana

Annual Emission Calcaulations

Rim Seal Losses (lb):	1,717.8599
Seal Factor A (lb-mole/ft-yr):	0.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Average Wind Speed (mph):	11.9600
Seal-related Wind Speed Exponent:	1.2000
Value of Vapor Pressure Function:	0.0237
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Tank Diameter (ft):	220.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,024.5142
Annual Net Throughput (gal/yr.):	1,040,820,918.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.4300
Tank Diameter (ft):	220.0000
Roof Fitting Losses (lb):	1.8947
Value of Vapor Pressure Function:	0.0237
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	1.6000
Average Wind Speed (mph):	11.9600
Total Losses (lb):	2,744.2688

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	1.8947

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T5050 (Future) 1 - External Floating Roof Tank
Whiting (Future), Indiana

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
BP Normal Oil	1,717.86	1,024.51	1.89	0.00	2,744.27

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modification

Source Description and Location

Source Name:	BP Products North America, Inc. - Whiting Business Unit
Source Location:	2815 Indianapolis Blvd., Whiting, IN 46394
County:	Lake
SIC Code:	2911
Operation Permit No.:	T 089-6741-00453
Operation Permit Issuance Date:	January 1, 2007
Significant Source Modification No.:	089-33530-00453
Significant Permit Modification No.:	089-33532-00453
Permit Reviewer:	Kristen Willoughby

Source Definition

(a) This stationary source consists of two (2) plants, with a third plant located on an adjacent site:

(1) The Whiting Refinery (previously designated 089-00003), located at 2815 Indianapolis Boulevard, Whiting, Indiana 46394; and

(2) The Marketing Terminal (previously designated 089-00004), located at 2530 Indianapolis Boulevard, Whiting, Indiana 46394.

(3) INEOS USA LLC (designated as 089-00076), 2357 Standard Avenue, Whiting, IN 46394.

Since the two (2) plants (Whiting Refinery and the Marketing Terminal) are located on contiguous or adjacent properties, the plants are under common control of the same entity, and the Whiting Refinery supports the Marketing Terminal, the two (2) plants are considered one (1) source.

In the case of the BP Whiting refinery and the INEOS USA LLC chemical plant, neither plant has a major role in the day-to-day operations of the other plant. There is no contract between the two companies concerning the acceptance or usage of raw materials. Each plant is free to obtain raw materials from other sources. The chemical plant has obtained raw materials from other sources in the past when the refinery has been unable to supply it. Neither plant provides a majority of its output to the other plant. Neither plant has the right to assume control of the other under any circumstance. The INEOS chemical plant purchases steam, water, wastewater service and a raw material stream from the BP refinery. If the refinery were to cease operations, the chemical plant could continue to operate.

The BP refinery purchases a hydrocarbon stream from the chemical plant. It also sends by-products to the INEOS chemical plant's flare. The flared by-products come from the venting of rail cars and the depressurizing of drums. The refinery does not rely on the hydrocarbon stream in order to produce its principal products. The refinery does not rely on the INEOS flare. If the INEOS chemical plant were to cease operations, the refinery could continue to operate. The refinery has a procedure in place on what steps its employees take when the INEOS flare is unavailable. Neither plant is dependent on the other to operate.

Since there is no common control, the refinery and the chemical plant are not part of the same major source. There is no need to examine the other two criteria under the definition of major

source. Therefore, the chemical plant is not included in this Title V Operating Permit. The chemical plant will receive a separate operating permit.

(b) The BP Whiting Refinery (BP) needs high pressure steam and high pressure hydrogen for its Whiting Refinery Modernization Project (WRMP). Praxair owns and operates a plant near the BP facility that produces low pressure hydrogen, carbon dioxide and low pressure steam (Plant A). Praxair's Plant A sells less than 50% of its current production to BP. In order to supply the high pressure hydrogen and high pressure steam needed for BP's WRMP, Praxair constructed a new plant (Plant B) near Plant A. IDEM, OAQ has examined whether Praxair's new Plant B will be part of the same major source as Praxair's Plant A, and whether one or both of the Praxair plants are part of the same major source as BP. The term "major source" is defined at 326 IAC 2-7-1(22). In order for two or more plants to be considered one major source, they must meet all three of the following criteria:

(1) the plants must be under common ownership or common control;

(2) the plants have the same two-digit SIC Code or one must serve as a support facility for another; and,

(3) the plants must be located on contiguous or adjacent properties.

The Two Praxair Plants

The first analysis will be of the relationship between the two Praxair plants. The Praxair plants are owned by Praxair. In 1996, IDEM adopted nonrule policy document (NPD) Air-005 to provide guidance for major source determinations. This nonrule policy states that if two plants are owned by the same entity, then common control exists. Since the two Praxair plants have the same owner, there is also common control and the first criterion of the definition of major source is met.

The SIC Code Manual, 1987, sets out how to determine the proper SIC Code for each type of business. The SIC Code is based on the source's primary activity or product. Although OSHA started using NAICS, the North American Industry Classification System, a 6-digit industry grouping system in 2003, Indiana's source definition rules still refer to the SIC Code Manual, 1987. OSHA keeps the Standard Industrial Classification Code Manual, 1987, available at http://www.osha.gov/pls/imis/sic_manual.html on the internet. The two Praxair plant have the same two-digit SIC code 28 for the major group Chemicals and Allied Products. The two plants therefore meet the second criterion of the definition.

The last criterion of the definition is whether the two plants are located on contiguous or adjacent properties. Praxair's Plant B is located approximately 75 yards from Praxair's Plant A. The plants are separated by property owned by Mittal Steel. A Mittal Steel bridge runs between the two Praxair properties. The two plants are not located on contiguous properties.

The term "adjacent" is not defined in Indiana's rules. NPD Air-005 adds the following guidance:

- properties that actually abut at any point would satisfy the requirement of contiguous or adjacent property.
- properties that are separated by a public road or public property would satisfy this requirement, absent special circumstances.
- other scenarios would be examined on an individual basis with the focus on the distance between the activities and the relationship between the activities.

All IDEM evaluations of adjacency are done on a case-by-case basis looking at the specific factors for the sources involved. The evaluation should look at whether the distance between the plants is sufficiently small that it enables them to operate as a single source. In addition to determining the distance between the sources, IDEM asks:

(1) Are materials routinely transferred between the plants?

(2) Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?
(3) Is the production process itself split in any way between the plants?

These questions focus on whether the two separate sources are so interrelated that they are functioning as one plant, and whether the distance between them is small enough that it enables them to operate as one plant.

Praxair states that the site for Plant B was chosen because it was one of a very few possible sites in the area. Plant B must be located relatively close to BP to provide a cost effective way of supplying high pressure steam to BP's WRMP. Praxair has stated that it will not operate Plant B if the WRMP were to cease operation. Praxair has no customers for the additional 200 million cubic feet per day of high pressure hydrogen production or for the high pressure steam.

Materials will not be routinely transferred between the two Praxair sites. The only thing that will be transferred is low pressure steam produced at Plant A that is used as building heat for Plant B. Some of Plant B's piping will travel on Plant A's property but will not be directly connected to any process in Plant A.

The plant manager is the same for both the existing and new plant. Praxair uses the same plant manager for other Praxair sources that are in the same general area, even when the sources are miles apart. Praxair will employ additional regional employees with offices at Plant B that will have responsibilities at Plant A, Plant B and two other regional Praxair plants in Michigan. Praxair hired additional employees to operate Plant B. All Praxair employees located at Plant A and Plant B are cross-trained to perform tasks at either plant and all personnel are shared between the two plants. All employees at Plant A and Plant B may also be temporarily assigned to other Praxair plants in the region and elsewhere. Praxair uses this type of employee sharing companywide and would have used the same sharing arrangement even if Plant B had been located even further from Plant A.

Plant B will have its own control room, supply room, parts room and will function as a stand-alone plant. The production process will not be split in any way between the two Praxair plants. The raw materials Plant B will use to produce hydrogen and high pressure steam, natural gas, refinery gas and water, will come directly from BP.

The two Praxair plants do not operate as a single source. Though the plants will share one manager and production employees, they have separate and unrelated production processes. The plants could have the same relationship even if they were located many miles apart. Therefore, the two plants are not located on adjacent properties. Since they do not meet the third criteria of the major source definition, IDEM, OAQ finds that the two Praxair plants are not part of the same major source.

The Praxair Plants and the BP Whiting Refinery

IDEM, OAQ has also examined whether Praxair's Plant A and/or its new Plant B will be part of the same major source as BP. The same major source definition applies.

The Praxair plants have a different owner than BP and there is no other common owner. Where there is no common ownership, IDEM's NPD Air-005 sets out two tests to determine if common control exists. These are the two-pronged test and the but/for test. If either test is satisfied, then common control exists.

The two-pronged test examines if one of the sources is an auxiliary activity that directly serves the purpose of a primary activity and if the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Day-to-day control of the auxiliary activity by the primary activity may be evidenced by several factors, including:

- is a majority of the output of the auxiliary activity provided to the primary activity?
- can the auxiliary activity contract to provide its products/services to a third-party without the consent of the primary activity?
- can the primary activity assume control of the auxiliary activity under certain circumstances?
- is the auxiliary activity required to provide periodic reports to the primary activity?

If one or a combination of these questions is answered affirmatively, common control may exist.

Plant A supplies hydrogen gas to BP. Plant A also produces hydrogen and carbon dioxide gases, which are sold to customers other than BP. More than 50% of Plant A's sales are to its other customers. BP does not have a major role in the day-to-day operations of Plant A. Plant A and BP do not meet the first common control test

Plant B will dedicate 92.5 percent of its total output of high pressure hydrogen and high pressure steam to BP. Plant B does not yet have any other customers. In addition, BP will supply all of the natural gas, refinery gas and water used by Plant B. BP will have a major role in the day-to-day operations of Plant B. Plant B and BP meet the first common control test.

The second common control test, the but/for test, asks if the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied.

If BP were to close, Plant A would be able to continue operating, since it will still have most of its customers and it does not get any material from BP. The but/for test is not satisfied. Therefore, there is no common control between Plant A and BP.

Plant B would lose at least 92.5% of its sales and lose its supply of essential raw materials if BP were to close. Plant B would not be able to operate until it created new fuel and water supply lines. Plant B would also have to find new customers. Plant B and BP satisfy the but/for test. Therefore, there is common control between Plant B and BP.

The second part of the definition of major source is whether the plants have the same two-digit SIC Code or if one serves as a support facility for the other. Plant A and Plant B have the two-digit SIC Code 28 for the major group Chemicals and Allied Products. BP has the two-digit SIC Code 29 for the major group Petroleum Refining and Related Industries.

A plant is considered a support facility if at least 50% of its total output is dedicated to the other plant. Plant A does not send 50% or more of its output to BP; therefore it is not a support facility. Plant B has dedicated at least 92.5% of its output to BP, so it is a support facility to BP. The second element of the definition is met for BP and Plant B, but not for BP and Plant A.

The last element of the definition is whether Plant A and/or Plant B are on contiguous or adjacent properties with BP. Plant A is on property that shares a common 40 foot long property line with BP's property. Therefore, Plant A and BP are on contiguous properties, meeting the third element of the definition.

Plant B is located on property that is not contiguous with BP's property. The two properties are about 1,600 feet apart. IDEM, OAQ must determine if Plant B and BP will be "adjacent". As stated above, all evaluations of adjacency are done on a case-by-case basis looking at the specific factors for the source involved. In addition to determining the distance between the sources, IDEM asks:

(1) Are materials routinely transferred between the plants?

(2) Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?

(3) Is the production process itself split in any way between the plants?

These questions focus on whether the two separate sources are so interrelated that they are functioning as one plant, and that the distance between them is small enough that it enables them to operate as one

Refinery gas, natural gas and water will flow through lines from BP to Plant B. Plant B will use that fuel and raw material to create high pressure steam and hydrogen which will be sent to BP by other dedicated pipelines. It is important that Plant B is located near to BP for effective transmission of high pressure steam.

No managers or production staff will travel back and forth between Plant B and BP to be actively involved in both plants. The production process will be split between Plant B and BP, as the hydrogen and high pressure steam provided by Plant B will result in the production of additional refinery gas which can be sent to Plant B from BP.

IDEM, OAQ finds that the distance between the two plants is sufficiently small and their production processes are so intertwined that it allows them to function as one source. Therefore, Plant B and BP are located on adjacent properties.

Plant A and BP do not meet all three elements of the major source definition. Therefore, Plant A and BP are not part of the same major source. Plant B and BP meet all three elements of the definition. IDEM, OAQ therefore finds that Plant B and BP are part of the same major source.

Existing Approvals

The source submitted an application for a Part 70 Operating Permit Renewal on March 31, 2011. At this time, this application is still under review. The source is operating under the following approvals:

(a) Part 70 Operating Permit No. 089-6741-00453, issued on December 14, 2006;
(b) Minor Source Modification No. 089-23783-00453, issued on February 20, 2007;
(c) Minor Source Modification No. 089-24258-00453, issued on March 30, 2007;
(d) Significant Permit Modification No. 089-24068-00453, issued on May 21, 2007;
(e) Significant Permit Modification No. 089-24410-00453, issued on June 19, 2007;
(f) Revocation No. 089-25044-00453, issued on September 26, 2007;
(g) Significant Source Modification No. 089-25484-00453, issued on May 1, 2008;
(h) Significant Permit Modification No. 089-25488-00453, issued on June 16, 2008;
(i) Temporary Operation No. 089-29543-00453, issued on August 17, 2010;
(j) Temporary Operation No. 089-30169-00453, issued on February 14, 2011;
(k) Minor Source Modification No. 089-28934-00453, issued on April 4, 2011;
(l) Temporary Operation No. 089-30387-00453, issued on May 9, 2011;
(m) Temporary Operation No. 089-31377-00453, issued on February 24, 2012;
(n) Significant Permit Modification No. 089-29033-00453, issued on June 8, 2012;
(o) Significant Source Modification No. 089-32033-00453, issued on December 3, 2012;
(p) Significant Permit Modification No. 089-31849-00453, issued on December 20, 2012;
(q) Minor Source Modification No. 089-32750-00453, issued on February 26, 2013; and
(r) Significant Permit Modification No. 089-32755-00453, issued on April 23, 2013.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O_3	On June 11, 2012, the U.S. EPA designated Lake County nonattainment, for the 8-hour ozone standard.
PM_{10}	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3. Unclassifiable or attainment effective February 6, 2012, for PM2.5.	

(a) Ozone Standards
U.S. EPA, in the Federal Register Notice 77 FR 112 dated June 11, 2012, has designated Lake County as nonattainment for ozone. On August 1, 2012 the air pollution control board issued an emergency rule adopting the U.S. EPA's designation. This rule became effective, August 9, 2012. IDEM, does not agree with U.S. EPA's designation of nonattainment. IDEM filed a suit against US EPA in the US Court of Appeals for the DC Circuit on July 19, 2012. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's designation. Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Therefore, VOC and NO_x emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.

(b) $PM_{2.5}$
Lake County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(d) Other Criteria Pollutants
Lake County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as a petroleum refinery, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	**Emissions** (ton/yr)
PM	>100
PM_{10}	>100
$PM_{2.5}$	>100
SO_2	>100
VOC	>100
CO	>100
NO_X	>100
GHGs as CO_2e	>100,000
Single HAP	>10
Total HAPs	>25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, emissions of GHGs are equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is a major stationary source, under Emission Offset (326 IAC 2-3), because VOC and NOx, a nonattainment regulated pollutant, is emitted at a rate of 100 tons per year or more.

(c) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

(d) These emissions are based upon Technical Support Document to Part 70 Operating Permit No. 089-6741-00453.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by BP Products North America, Inc. - Whiting Business Unit on August 15, 2013, relating to upgrades at the Hazardous Waste Treatment Facility and Wastewater Treatment Plant, required by the Consent Decree filed in US et al vs. BP Products, Inc, 2:12-cv-00207. Additionally, this modification incorporates updates related to the thermal desorption system, which was permitted in SSM 089-25484-00453 but never installed. The following is a list of the proposed and modified emission units and pollution control devices:

New Units:

Hazardous Waste Treatment System Units:

(a) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(b) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters

Wastewater Treatment Plant Units:

(c) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(1) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(2) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(d) One (1) Solids Collection System, which vents to a dual carbon canister system and consists of the J-92 pump lift station and strainer backwash system, approved in 2014 for construction, with a storage capacity of 318,434 gallons, constructed as part of the Lakefront Upgrades Project.

(e) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(f) Sewer components associated with the Lakefront Upgrades Project.

Modified and Affected Units:

(g) The following tanks will now be oil-water separation, equalization, and stormwater surge tanks instead of storage tanks: TK-5050, TK-5051, and TK-5052. Additionally, TK-5050 is being equipped with an external floating roof.

(h) TK-562 solids tank, an existing fixed-roof storage tank located at the WWTP, will experience an increase in throughput as a result of the Lakefront Upgrades Project. Additionally, as a part of the project, emissions from the tank will be routed to a closed vent and carbon canister system.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Stack Summary

Stack ID	**Operation**	**Height** (ft)	**Diameter** (ft)	**Flow Rate** (acfm)	**Temperature** (^{0}F)
DNF Units and Float Tanks	T-310, T-320, T-330, T-340, T-303, T-304	TBD	TBD	TBD	TBD
Solids Collection System	Solids Collection System	TBD	TBD	TBD	TBD
DNF Dewatering System	DNF Dewatering System	TBD	TBD	TBD	TBD
Tank Cleaning	Tank Cleaning	TBD	TBD	TBD	TBD

Stack ID	**Operation**	**Height** (ft)	**Diameter** (ft)	**Flow Rate** (acfm)	**Temperature** (^{0}F)
Dewatering System	Dewatering System				

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Increase in PTE Before Controls of the Modification New Emission Units	
Pollutant	**Potential To Emit** (ton/yr)
PM	-
PM_{10}	-
$PM_{2.5}$	-
SO_2	-
VOC	389.23
CO	-
NO_X	-
Single HAPs	>10
Total HAPs	>25

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

This source modification is subject to 326 IAC 2-7-10.5(g)(4), modifications with a potential to emit greater than or equal to 25 tons per year of VOC. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because it does require a case-by-case emission limitation and significant changes to compliance determination and monitoring.

Permit Level Determination – PSD or Emission Offset or Nonattainment NSR

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (ton/yr)								
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**VOC**	**CO**	**NO_X**	**GHGs**	**H2S/TRS**
New Units									
Equipment Leaks	-	-	-	-	2.70	-	-	-	0.01
Sewers	-	-	-	-	5.33	-	-	-	0.02
DNF	-	-	-	-	10.40	-	-	-	0.94
Solids Collection	-	-	-	-	0.87	-	-	-	0.04
DNF Dewatering System	-	-	-	-	7.26	-	-	-	-
Tank Cleaning and Dewatering System	-	-	-	-	0.49	-	-	-	-
Total for New Units	-	-	-	-	27.02	-	-	-	1.01
Baseline for Affected Units	-	-	-	-	7.42	-	-	-	0.008
Potential Emissions for Affected Units	-	-	-	-	1.37	-	-	-	0.006
Potential-Baseline Emissions	-	-	-	-	<0	-	-	-	<0
Emissions Increase Due to Project	-	-	-	-	27.02	-	-	-	1.01
Significant Level - PSD	25	15	10	40	-	100	40	75,000 CO_2e	10
Significant Level - EO	-	-	-	-	40	-	40	-	-

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Although TK-5051 and TK-5052 will function as part of the oil-water separators after completion of the project, no physical modifications to these tanks will be required. The refinery will also not generate any more wastewater as a result of the LFU Project. Thus, there will be no increase in the utilization of TK-5050 or TK-5051. Furthermore, no changes in material service will occur (i.e., the composition of the wastewater that is processed through the tanks will not change or experience any increase in average vapor pressure) Thus, there will be no increase in the emission rate of any pollutant from TK-5051 or TK-5052. Therefore, BP does not consider TK-5051 or TK-5052 to be affected for the purpose of determining the increase in VOC emissions attributable to the LFU Project.

BP considers TK-562 to be an affected emissions unit for the purpose of determining the NSR applicability for the LFU Project. As a part of the project, BP intends to route all emissions from the tank to a closed vent and carbon canister system that will comply with the control requirements of 40 CFR 61, Subpart FF (the Benzene Waste Operations NESHAP or BWON). BP has determined that the addition of the closed vent and carbon canister system will result in a decrease in actual emissions from the operation of TK-562. BP proposes to include an additional

requirement under permit condition D.26.6, to ensure that BWON compliant controls are installed and operational for TK-562 upon the startup of the new DNF units.

Since this source is considered a major EO source and the unrestricted potential to emit of this modification is greater than forty (40) tons of VOC per year, this source has elected to limit the potential to emit of this modification as follows:

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the dewatering systems:

(a) The VOC emissions from the DNF dewatering system shall not exceed 7.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the tank cleaning and dewatering system, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.5 tons per 12 consecutive month period, with compliance determined at the end of each month.

(c) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System, constructed as part of the Lakefront Upgrades Project, shall not exceed 10.4 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) The VOC emissions from the Solids Collection System, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.87 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) By no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, constructed as a part of the Lakefront Upgrades Project, emissions from TK-562 shall be routed to a carbon canister control device that meets all applicable control and/or treatment requirements under the Benzene Waste Operations NESHAP.

Compliance with the VOC emissions limit, shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

Project Aggregation

This permitting action incorporates the Lakefront Upgrades (LFU) Project as required by the terms and conditions of the Federal Consent Decree that has been entered in *United States, et al. v BP Products North America Inc*, Civil No. 2:12-CV-00207 (N.D. Ind. Hammond Div., November 6, 2012). The parties to this Federal Consent Decree are the United States, the State of Indiana and all of the Petitioners in the separate *Save The Dunes Council, Inc. et al. v. BP Products North America Inc*. before the Indiana Office of Environmental Adjudication (Cause Nos. 08-A-J-4115 and 08-A-J-4142). The parties agree that the purpose of the Federal Consent Decree and the other projects required by the Consent Decree is, *inter alia*, the resolution of alleged noncompliance with 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset) or 326 IAC 2-1.1-5 (Non-attainment NSR).

Federal Rule Applicability Determination

The following federal rules were evaluated for applicablity to the source due to this modification:

NSPS:

(a) *New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*
Tanks TK-5050, TK-5051, TK-5052, and TK-562 are not subject to the requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or

Modification Commenced After July 23, 1984, 40 CFR 60, Subpart Kb, because they are not storage vessels as defined in 40 CFR 60.111b.

(b) *New Source Performance Standard for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006*
The DNF, solids collection system, and tanks TK-5050, TK-5051, TK-5052, and TK-562 are not subject to the requirements of the New Source Performance Standard for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, 40 CFR 60, Subpart GGGa, because they are part of the waste water treatment plant which is not an affected facility as defined in 40 CFR 60, Subpart GGGa.

(c) *New Source Performance Standard for VOC Emissions From Petroleum Refinery Wastewater Systems*

(1) Tanks TK-5050, TK-5051, TK-5052, and TK-562 are not subject to the requirements of the New Source Performance Standard for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60, Subpart QQQ, because the changes to the units do not result in an increase in emissions to the atmosphere. Therefore, the changes do not meet the definition of modification under 40 CFR 60.2.

(2) The DNF dewatering system and Dissolved Nitrogen Floatation (DNF) system are not subject to the requirements of the New Source Performance Standard for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60, Subpart QQQ, because they are not considered affected facilities under 40 CFR 60.690 since they are located downstream from the oil-water separators.

(3) This source is subject to the requirements of the New Source Performance Standard for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60, Subpart QQQ.

New Units:

Hazardous Waste Treatment System Units:

(1) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

Wastewater Treatment Plant Units:

(2) New individual drains associated with the LFU Project will be considered new affected facilities subject to the New Source Performance Standard for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60, Subpart QQQ. However, BP Whiting will satisfy the requirements 40 CFR 60, Subpart QQQ, by complying with the overlap provision of 40 CFR 63, Subpart CC, because these units are subject to 40 CFR 63, Subpart CC and pursuant to 40 CFR 63.640(o)(1) "After the compliance dates specified in paragraph (h) of this section a Group 1 wastewater stream managed in a piece of equipment that is also subject to the provisions of 40 CFR part 60, subpart QQQ is required to comply only with this subpart."

(3) One (1) Solids Collection System, which vents to a dual carbon canister system and consists of the J-92 pump lift station and strainer backwash system, approved in 2014 for construction, with a storage capacity of 318,434 gallons, constructed as part of the Lakefront Upgrades Project.

Nonapplicable portions of the NSPS will not be included in the permit. This source is subject to the following portions of Subpart QQQ.

1. 40 CFR 60.690
2. 40 CFR 60.691
3. 40 CFR 60.692-1
4. 40 CFR 60.692-2
5. 40 CFR 60.692-3
6. 40 CFR 60.692-4
7. 40 CFR 60.692-5 (b), (d), (e)
8. 40 CFR 60.692-6
9. 40 CFR 60.692-7
10. 40 CFR 60.693-2
11. 40 CFR 60.695 (a)(3)(ii)
12. 40 CFR 60.696 (a), (b), (d)
13. 40 CFR 60.697 (a), (b), (c), (d), (e), (f)(1), (f)(2), (f)(3)(i - vii), (f)(3)(x)(B), (g), (h), (i), (j), (k)
14. 40 CFR 60.698 (a), (b), (c), (d)(3)(ii), (e)
15. 40 CFR 60.699

NESHAP:

(d) *National Emission Standards for Hazardous Air Pollutants for Benzene Waste Operations*
This source is subject to the National Emission Standards for Hazardous Air Pollutants for Benzene Waste Operations (40 CFR 61, Subpart FF). The units subject to this rule include the following:

New Units:

Hazardous Waste Treatment System Units:

(1) One (1) dewatering system, identified as DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(2) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

Wastewater Treatment Plant Units:

(3) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(A) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(B) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(4) One (1) Solids Collection System, which vents to a dual carbon canister system and consists of the J-92 pump lift station and strainer backwash system, approved in 2014 for construction, with a storage capacity of 318,434 gallons, constructed as part of the Lakefront Upgrades Project.

(5) Sewer components associated with the Lakefront Upgrades Project.

Modified and Affected Units:

(6) Solids tank TK-562, which will be equipped with a closed vent and carbon canister system as a part of the Lakefront Upgrades Project.

(7) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5051) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988 and equipped with an external floating roof.

(8) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5050) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988. As part of the Lakefront Upgrades Project, TK-5050 will be equipped with an external floating roof, constructed in 2014.

(9) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5052) having a maximum storage capacity of 11,676,000 gallons, constructed as part of the WRMP Project. This tank is equipped with an external floating roof.

Nonapplicable portions of the NESHAP will not be included in the permit. This source is subject to the following portions of Subpart FF:

1. 40 CFR 61.340
2. 40 CFR 61.341
3. 40 CFR 61.342
4. 40 CFR 61.343
5. 40 CFR 61.345
6. 40 CFR 61.346
7. 40 CFR 61.347
8. 40 CFR 61.348 (a)(1)(i), (a)(2), (a)(3), (a)(4), (a)(5), (c), (e), (f), (g)
9. 40 CFR 61.349 (a), (b), (c), (e), (f), (g), (h)
10. 40 CFR 61.350
11. 40 CFR 61.351
12. 40 CFR 61.352 (a)(1), (b), (c)
13. 40 CFR 61.354 (a), (c), (d), (f), (g)
14. 40 CFR 61.355 (a)(1-3), (a)(6), (b)(1), (b)(3), (b)(5-7), (c), (d), (e), (h), (i), (j), (k)
15. 40 CFR 61.356 (a), (b)(1), (b)(4), (b)(5), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)
16. 40 CFR 61.357 (a), (d), (e), (f), (g)
17. 40 CFR 61.358
18. Appendix A
19. Appendix B
20. Appendix C
21. Appendix D
22. Appendix E

The provisions of 40 CFR 61 Subpart A – General Provisions, which are incorporated as 326 IAC 14-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 61 Subpart FF.

(d) *National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries*

(1) The equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) From Petroleum Refineries (40 CFR 63, Subpart CC) because they are not equipment leaks from petroleum refining process units as defined in 40 CFR 63.641. Although certain portions of the refinery are subject to the MACT CC LDAR requirements, the Hazardous Waste Treatment Facility processes and generates waste streams, and does not process or generate any intermediate petroleum products, final petroleum products, or petroleum derivatives. Specifically, the existing dewatering system (DAF/API dewatering system) processes various waste streams produced at the refinery, such as dissolved air flotation (DAF) skimmings and API oil/water separator sludge. The new dewatering systems, DNF dewatering system and Tank Cleaning Dewatering System, will process DNF float/sludge and settled solids from the Oil-Water Separation, Equalization, and Stormwater Surge Tanks (TK-5050, TK-5051, and TK-5051), respectively. Additionally, the dewatering system's liquid effluent stream consists of mostly water and some oil, which is routed directly to the closed process sewer system for treatment and recovery at the Lakefront WWTP. Therefore, the Hazardous Waste Treatment Facility does not meet the definition of petroleum refining process unit and is not subject to the equipment leak provisions of MACT CC.

(2) This source is subject to the National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries (40 CFR 63, Subpart CC). The units subject to this rule include the following:

New Units:

Hazardous Waste Treatment System Units:

(A) One (1) dewatering system, identified as DNF approved in 2014 for construction, dewatering system, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(B) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

Wastewater Treatment Plant Units:

(C) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(i) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(ii) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(D) One (1) Solids Collection System, which vents to a dual carbon canister system and consists of the J-92 pump lift station and strainer backwash system, approved in 2014 for construction, with a storage capacity of 318,434 gallons, constructed as part of the Lakefront Upgrades Project.

(E) Sewer components associated with the Lakefront Upgrades Project.

Modified and Affected Units:

(F) Solids tank TK-562, which will be equipped with a closed vent and carbon canister system as a part of the Lakefront Upgrades Project.

(G) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5051) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988 and equipped with an external floating roof.

(H) One (1) oil-water separation, equalization, and stormwater surge tank (identified as Tank TK-5050) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988. As part of the Lakefront Upgrades Project, TK-5050 will be equipped with an external floating roof, constructed in 2014.

Nonapplicable portions of the NESHAP will not be included in the permit. This source is subject to the following portions of Subpart CC:

1. 40 CFR 63.640 all except (b)
2. 40 CFR 63.641
3. 40 CFR 63.642 (a), (c), (d), (e), (f), (g), (i), (k), (m)
4. 40 CFR 63.643 (a)(1)
5. 40 CFR 63.644 (a)(2), (c), (d), (e)
6. 40 CFR 63.645
7. 40 CFR 63.646
8. 40 CFR 63.647
9. 40 CFR 63.648 (a)(1), (b), (g), (h), (i)
10. 40 CFR 63.649 (e)
11. 40 CFR 63.650
12. 40 CFR 63.651
13. 40 CFR 63.654
14. 40 CFR 63.655
15. Table 1
16. Table 4
17. Table 5
18. Table 6

The provisions of 40 CFR 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart CC.

(d) *National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Oil-Water Separators and Organic-Water Separators*
This modification not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Oil-Water Separators and Organic-Water Separators, 40 CFR 63, Subpart VV because it is not subject to another subpart of 40 CFR Parts 60, 61, or 63 which reference 40 CFR 63, Subpart VV.

CAM:

(d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

CAM Applicability Analysis							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
DNF Dewatering System, - VOC	Carbon Canisters	Y	>100	<100	100	Y	N
Tank Cleaning Dewatering System - VOC	Carbon Canisters	Y	<100	<100	100	N	N
DNF - VOC	Carbon Canisters	Y	>100	<100	100	Y	N
DNF - H2S	Carbon Canisters	N	<10	<10	10	N	N
Solids Collection System - VOC	Carbon Canisters	Y	<100	<100	100	N	N
Solids Collection System - H2S	Carbon Canisters	N	<10	<10	10	N	N

Note: TK-562 is not a large unit. A detailed CAM anaylsis will be done for this unit as part of Part 70 Operating Permit Renewal No. T089-30396-00453.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the DNF Dewatering System and the DNF for VOC upon issuance of the Title V Renewal. A CAM plan must be submitted as part of the Renewal application.

State Rule Applicability Determination

The following state rules were evaluated for applicablility to the source due to the modification:

326 IAC 2-3 (Emission Offset)
The Permittee has taken the following limits to ensure this project is minor under Emission Offset.

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the dewatering systems:

(a) The VOC emissions from the DNF dewatering system shall not exceed 7.3 tons per 12 consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the tank cleaning and dewatering system, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.5 tons per 12 consecutive month period, with compliance determined at the end of each month.

(c) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System, constructed as part of the Lakefront Upgrades Project, shall not exceed 10.4 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) The VOC emissions from the Solids Collection System, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.87 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) By no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, constructed as a part of the Lakefront Upgrades Project, emissions from TK-562 shall be routed to a carbon canister control device that meets all applicable control and/or treatment requirements under the Benzene Waste Operations NESHAP.

Compliance with the VOC emissions limits shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
Pursuant to 326 IAC 2-4.1-1(b)(2), the requirements of 326 IAC 2-4.1-1 do not apply to a major source specifically regulated, or exempt from regulation, by a standard issued pursuant to Section 112(d), 112(h), or 112(j) of the CAA.

326 IAC 8-4-2 (Petroleum Refineries)
Pursuant to 326 IAC 8-4-2 (2), the Permittee shall equip all wastewater (oil/water) separators, forebay, and openings in covers with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
None of the new or modified units are petroleum liquid storage vessels. Therefore, these units are not subject to the requirements of 326 IAC 8-1-3.

326 IAC 8-4-8 (Leaks from Petroleum Refineries)
Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request the Permittee to revise the plan.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
Tanks TK-5050, TK-5051, TK-5052, and TK-562 are not subject to the requirements of 326 IAC 8-9 because they are not storage tanks.

326 IAC 8-20 (Industrial Wastewater)
The Wastewater Treatment Plant is not located at a facility listen in one of the SIC codes specified in 326 IAC 8-20-1(a)(3). Therefore, this Wastewater Treatment Plant is not subject to the requirements of 326 IAC 8-20.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with

the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance Determination Requirements applicable to this modification are as follows:

(a) The Lakefront Upgrades Project has applicable compliance determination conditions as specified below:

(1) VOC Control

(A) The carbon canisters for VOC control shall be in operation and control emissions from the DNF dewatering system, the Tank Cleaning Dewatering System, Dissolved Nitrogen Floatation (DNF) System, Solids Collection System, and TK-562 at all times the DNF dewatering system, the Tank Cleaning Dewatering System, Dissolved Nitrogen Floatation (DNF) System, Solids Collection System, and TK-562 are in operation.

(B) Per sub-paragraphs 52.a.i and ii, of section J of the Consent Decree entered in Civil No. 2:12-CV-00207, the vapor recovery and carbon canister systems for the DNF dewatering system, Tank Cleaning Dewatering System, Dissolved Nitrogen Floatation (DNF) System, Solids Collection System, and TK-562 shall consist of primary and secondary carbon canisters, operated in series (the "dual-canister" option). BP may comply with the requirements of the dual canister option required under this sub-paragraph by using a single canister with a "dual carbon bed" if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with the following:

(1) BP shall conduct breakthrough monitoring between the primary and secondary carbon canisters or beds when there is actual flow to the carbon canister. Such monitoring shall be conducted in accordance with the frequency specified in 40 CFR 61.354(d) using as the design basis the applicable breakthrough definition specified in sub-paragraph 52.a.iii of section J of the Consent Decree entered in Civil No. 2:12-CV-00207. If a carbon canister or bed becomes unsafe to monitor because it is located within a temporary exclusion zone, BP shall monitor the canister or bed as soon as is practicable after the exclusion zone is no longer in effect, but in no case later than the end of the normal monitoring interval for the canister or bed or within 3 days of the end of the exclusion period, whichever is sooner.

(C) Monthly emissions from the DNF dewatering system and the Tank Cleaning Dewatering System shall be calculated as follows:

$$\text{VOC Emissions (ton/month)} = \Sigma^{n}[C_{VOC} * 10^{-6} * F_{Vent} * MW * P / (R * T)] / 2000 \text{ (lb/ton)}$$

where:

n =	number of days per month;
C_{VOC} (ppmv) =	measured VOC concentration at carbon canister outlet or 50 ppmv;
F_{Vent} (scf/day) =	daily average carbon canister vent exhaust flow, at 519.7 R (60°F) and 14.7 psia (1 atm);
MW (lb/lbmol) =	molecular weight of vent exhaust;
P (psia) =	14.7 psia;
T (R) =	519.7 R; and
R (ft^3 psi R^{-1} $lbmol^{-1}$) =	Universal Gas Constant, 10.731 ft^3 psi R^{-1} $lbmol^{-1}$.

If the Permittee opts to use the measured VOC concentration in lieu of 50 ppmv, the VOC concentration shall be determined in accordance with 40 CFR 61.354(a)(1), as in effect on May 13, 2013.

(D) Monthly emissions from the Dissolved Nitrogen Floatation (DNF) System shall be calculated as follows:

VOC Emissions (ton/month) = $\Sigma^n[C_{VOC} * 10^{-6} * F_{Vent} * MW * P / (R * T)] / 2000$ (lb/ton)

where:

n =	number of days per month;
C_{VOC} (ppmv) =	measured VOC concentration at carbon canister outlet or 50 ppmv;
F_{Vent} (scf/day) =	daily average carbon canister vent exhaust flow, at 519.7 R (60°F) and 14.7 psia (1 atm);
MW (lb/lbmol) =	molecular weight of vent exhaust
P (psia) =	14.7 psia;
T (R) =	519.7 R; and
R (ft^3 psi R^{-1} $lbmol^{-1}$) =	Universal Gas Constant, 10.731 ft^3 psi R^{-1} $lbmol^{-1}$.

If the Permittee opts to use the measured VOC concentration in lieu of 50 ppmv, the VOC concentration shall be determined in accordance with 40 CFR 61.354(a)(1), as in effect on May 13, 2013.

(E) Monthly emissions from the Solids Collection System shall be calculated as follows:

VOC Emissions (ton/month) = $[(N * EF_{WORKING}) + E_{STANDING}] / 2000$ (lb/ton)

where:

N = number of roll off boxes generated from the Solids Collection System J-92 strainer backwash system per month;
$EF_{WORKING}$ (lbs VOC / roll off box) = working loss VOC emission factor, 3.70 lbs VOC / roll off box; and
$E_{STANDING}$ (lbs VOC / month) = standing loss VOC emissions, 3.78 lbs VOC / month.

(2) Sampling Requirements

(A) Not later than 30 days after the startup of the DNF dewatering system, the Permittee shall sample and determine the molecular weight of the vent exhaust from the duel carbon canisters controlling the DNF dewatering system. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

(B) The Permittee shall sample and determine the molecular weight of the vent exhaust from the duel carbon canisters controlling the Tank

Cleaning Dewatering System at least once per quarter when the Tank Cleaning Dewatering System is in operation or once per cleaning event, whichever is more frequent.

(C) Not later than 30 days after the startup of the Dissolved Nitrogen Floatation (DNF) System, the Permittee shall sample and determine the molecular weight of the vent exhaust from the duel carbon canisters controlling the Dissolved Nitrogen Floatation (DNF) System. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

The compliance monitoring requirements applicable to this modification are as follows:

(1) Carbon Canister Monitoring

(A) A continuous monitoring system shall be calibrated, maintained, and operated on the dual carbon canisters for measuring the vent exhaust flow rate. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes.

(B) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(i) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(ii) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(C) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(D) Breakthrough Definition:
Breakthrough shall be considered either 50 ppmv VOC or 1 ppmv benzene, as per sub-paragraph 52.a.iii of section J of the Consent Decree entered in Civil No. 2:12-CV-00207. Additionally, BP shall immediately replace the primary carbon canister or bed when the design value for the primary canister or bed is exceeded (as monitored between the primary and secondary carbon canisters or carbon beds). Unless both the primary and secondary carbon canisters or beds are replaced with fresh ones, the original secondary carbon canister or bed shall become the new primary carbon canister or bed and a fresh secondary carbon canister or bed shall be installed. In all cases, any carbon canister or bed used as the primary unit shall have sufficient capacity to meet the breakthrough definition of this sub-paragraph. For purposes of this sub-paragraph, “immediately” means no later than within twenty-four (24) hours.

These monitoring conditions are necessary because the vapor recovery system and carbon canisters must operate properly to ensure compliance with 326 IAC 2-3 (Emission Offset) and 326 IAC 2-7 (Part 70)), and the Consent Decree entered in Civil No. 2:12-CV-00207.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T089-6741-00453. These changes may include Title I changes (ex changes that add or modify synthetic minor emission limits). Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Summary of Model Updates

(a) On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule citations listed in the permit. These changes are not changes to the underlining provisions. The change is only to cite of these rules in Section A - General Information, Section A - Emission Units and Pollution Control Equipment Summary, Section B - Permit Renewal and Section B - Operational Flexibility.

(b) The Northwest Regional Office has changed locations. The Region Office telephone numbers have been updated.

(c) **Section B - Operational Flexibility**
The last sentence of section (c) of this condition has been moved to section (f) of this condition.

(d) **Section C - Compliance Monitoring**
IDEM is changing the Section C - Compliance Monitoring Condition to clearly describe when new monitoring for new and existing units must begin.

(e) **Section C - Instrument Specifications**
IDEM has clarified Section C - Instrument Specifications to indicate that the analog instrument must be capable of measuring the parameters outside the normal range.

(f) **Section C - General Record Keeping Requirements**
IDEM has added "where applicable" to the lists in Section C - General Record Keeping Requirements to more closely match the underlining rule.

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B.11 Emergency Provisions [326 IAC 2-7-16]

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(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

***

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality,

Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

Northwest Regional Office phone: (219) 464-~~0074~~**0233**; fax: (219) 464-~~0075~~**0553**.

***

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(~~40~~**42**). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

***

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) ***

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(~~36~~**37**)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c). ~~The notification requirement in (a)(4) of this condition does not apply to emission trades of SO_2 or NO_x under 326 IAC 10-4.~~

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

(f) This condition does not apply to emission trades of **SO_2 or** NO_x under **326 IAC 21 or** 326 IAC 10-4.

***

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(~~a~~**b**) **For existing units:**
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance ~~or of initial start-up, whichever is later,~~ to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance ~~or the date of initial startup, whichever is later,~~ the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

***

C.15 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. **The analog instrument shall be capable of measuring values outside of the normal range.**

***

C.21 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following**, where applicable**:

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following**, where applicable**:

***

Modification No. 1:

Condition A.3 has been updated to remove the units that were not constructed and add the new units associated with the Lakefront Upgrades Project.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

***

(y) Hazardous Waste Treatment System:

(1) Dewatering ~~and thermal desorption~~ system for processing sludge, per SSM 089-25484-00453, issued May 1, 2008, including dissolved air flotation skimmi~~m~~**n**gs (DAF) and API oil/water separator sludge. The dewatering system will be equipped with a wet scrubber and carbon canister system**.** ~~and the thermal~~

~~desorption unit will be equipped with a vapor recovery system to optimize absorption of hydrocarbons~~ The feed rate capaci~~ties~~**y** at the **DAF/API** dewatering system ~~and thermal desorption systems are 22,500 tons of feed per year and 9,000 dry tons of solids per year, per year, respectively~~ **is 60,000 gallons per day**. This facility includes the following emission sources and may include insignificant activities listed in Section A.4 of the permit:

(~~1~~**A**) Two (2) centrifuges;

(~~2~~**B**) Two (2) sludge surge tanks;

(~~3~~**C**) One (1) oil/water mixture surge tank;

(~~4~~**D**) One (1) enclosed auger transfer system;

(~~5~~**E**) One (1) vapor recovery system on the **dewatering system** ~~thermal desorption unit~~ including~~: an~~ **a wet scrubber and carbon canister system**~~ oil condensing/scrubbing system, a water condensing/scrubbing system, and an oil water separator. Uncondensed vapors from this system are routed to the two (2) diesel fired burners for destruction of VOCs~~.

~~Insignificant Activity:~~

~~(6) Two (2) diesel fired burners rated at 4 mmBTU/hr each, for the thermal desorption system.~~

(2) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(3) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(z) Wastewater Treatment Plant (WWTP), identified as Unit ID 544. This facility treats the water used in the refining process that comes into contact with oil or chemicals. In the first step, the heavier solids are removed at the inlet to the WWTP and the floating oil is skimmed from the surface of the wastewater in the API separator boxes. The oil is then recycled back to the refinery. The water is then aerated in the Air Flotation Unit where additional solid impurities are floated and skimmed. **As part of the Lakefront Upgrades (LFU) Project, approved in 2014 for modification, the larger solids in the wastewater will be removed in the new Solids Collection System. Then the wastewater will be routed to tanks TK-5050, TK-5051 and TK-5052, which will operate in parallel and serve as oil-water separators, equalization, and stormwater surge. Floating oil will be separated and skimmed from the tanks and recycled. The water will be routed to the new Dissolved Nitrogen Floatation (DNF) Units to remove suspended solids and oil, which will be floated and skimmed.** Thereafter, it moves to the Activated Sludge Plant where special bacteria digest the remaining contaminants. The water then passes through a clarifier and then final filters before being

returned to Lake Michigan. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

(1) The following units are equipped with closed vent systems: oil sump P-1, oil sump P-2, **solids tank TK-562, which will vent to carbon canisters by no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, installed as a part of the Lakefront Upgrades Project;** and ~~Diffused~~ **Dissolved** Air Floatation (DAF) Secondary Boxes, which vent to a biofilter and carbon canisters; Tank 569 is equipped with a conservation vent.

(2) The following units are equipped with a fixed-roof or floating roof: Interceptor Box, Diversion Box (from Tank TK-5051 to DAF), DAF Flash Mixer, DAF Influent Channel, DAF Effluent Channel, DAF Primary Boxes, and DAF Sump.

(3) One (1) **oil-water separation, equalization, and stormwater surge** ~~storage~~ tank (identified as Tank TK-5051) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988 and equipped with an external floating roof.

(4) One (1) **oil-water separation, equalization, and stormwater surge** ~~storage~~ tank (identified as Tank TK-5050) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988. ~~This tank is used for storm event and upset impoundments.~~ **As part of the Lakefront Upgrades Project, TK-5050 will be equipped with an external floating roof, constructed in 2014.**

(5) Seven (7) oil-water/solids separator units enclosed with a fixed-roof: Bar Screen, #7 API Separator Fixed Cover, #7 API Separator Primary Inlet, #7 API Separator Secondary Inlet, #7 API Separator Secondary Outlet, #7 API Separator Inlet Channel Section, and #7 API Separator Gear Boxes.

(6) One (1) **oil-water separation, equalization, and stormwater surge** ~~storage~~ tank (identified as Tank TK-5052) having a maximum storage capacity of 11,676,000 gallons, ~~to be~~ constructed as part of the WRMP Project. This tank ~~will be used as a stormwater equalization tank and~~ is equipped with an external floating roof.

(7) A brine treatment system with four (4) fixed roof tanks equipped with an iron sponge, constructed as part of WRMP project, identified as:

(A) TK-101, with a storage capacity of 128,972 gallons;
(B) TK-102, with a storage capacity of 128,972 gallons;
(C) TK-103, with a storage capacity of 128,972 gallons; and
(D) TK-104, with a storage capacity of 51,580 gallons.

(8) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(A) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(B) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(9) One (1) Solids Collection System, which vents to a dual carbon canister system and consists of the J-92 pump lift station and strainer backwash system, with a storage capacity of 318,434 gallons, constructed as part of the Lakefront Upgrades Project.

(10) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(11) Sewer components associated with the Lakefront Upgrades Project.

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Modification No. 2:

Sections D.25 and D.26 have been updated to remove requirements for units that were not constructed and add emission limitations, compliance determination, compliance monitoring, record keeping requirements for the Lakefront Upgrades Project.

SECTION D.25 FACILITY OPERATION CONDITIONS - Hazardous Waste Treatment Facility

Facility Description [326 IAC 2-7-5(14)]:

(y) Hazardous Waste Treatment System:

(1) Dewatering ~~and thermal desorption~~ system for processing sludge, per SSM 089-25484-00453, issued May 1, 2008, including dissolved air flotation skimmi~~m~~**n**gs (DAF) and API oil/water separator sludge. The dewatering system will be equipped with a wet scrubber and carbon canister system**.** ~~and the thermal desorption unit will be equipped with a vapor recovery system to optimize absorption of hydrocarbons~~ The feed rate capaciti~~es~~**y** at the **DAF/API** dewatering system ~~and thermal desorption systems are 22,500 tons of feed per year and 9,000 dry tons of solids per year, per year, respectively~~ **is 60,000 gallons per day**. This facility includes the following emission sources and may include insignificant activities listed in Section A.4 of the permit:

(~~1~~**A**) Two (2) centrifuges;

(~~2~~**B**) Two (2) sludge surge tanks;

(~~3~~**C**) One (1) oil/water mixture surge tank;

(4**D**) One (1) enclosed auger transfer system;

(~~5~~**E**) One (1) vapor recovery system on the **dewatering system** ~~thermal desorption unit~~ including~~: an~~ **a wet scrubber and carbon canister system** ~~oil condensing/scrubbing system, a water condensing/scrubbing system, and an oil water separator. Uncondensed vapors from this system are routed to the two (2) diesel fired burners for destruction of VOCs~~.

~~Insignificant Activities:~~

~~(6) Two (2) diesel fired burners rated at 4 mmBTU/hr each, to supply heat to the thermal desorption system.~~

(2) One (1) dewatering system, identified as the DNF dewatering system, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber, will be installed as part of the Lakefront Upgrades Project to process float and sludge from the Dissolved Nitrogen Floatation (DNF) System. The feed rate capacity will be 505,000

gallons per day. Vapors from the system will be routed to dual carbon canisters.

(3) One (1) Tank Cleaning Dewatering System, approved in 2014 for construction, equipped with multiple frac tanks, electric boilers, centrifuges, and a wet scrubber for processing sludge during routine cleaning of TK-5050, TK-5051, and TK-5052. The feed rate capacity will be 240,000 gallons per day. Vapors from the system will be routed to dual carbon canisters.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

~~D.25.1 Particulate Matter [326 IAC 6.8-1-2]~~

~~Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2), particulate matter emissions from each of the two (2) diesel fired burners shall not exceed 0.03 grains per dry standard cubic foot.~~

D.25.~~2~~**1** Prevention of Significant Deterioration [326 IAC 2-2], Emission Offset [326 IAC 2-3] and Nonattainment NSR [326 IAC 2-1.1-5] Minor Limits

~~(a)~~ In order to render 326 IAC 2-2, 326 IAC 2-1.1-5, and 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the dewatering and thermal desorption system:

The VOC emissions from the ~~thermal desorption, thermal~~ **DAF/API** dewatering system~~s~~ and associated fugitives shall not exceed 2.4 tons per 12 consecutive month period, with compliance at the end of each month.

Compliance with the VOC emissions limits, in conjunction with the emissions limits at other units at this source, shall ensure that the net emissions increases, including fugitive emissions, for NO_X, VOC, SO_2, CO, PM and PM_{10} for the WRMP project remain below the significant levels, rendering 326 IAC 2-2, 326 IAC 2-1.1-5 and 326 IAC 2-3 not applicable for these pollutants.

~~(b) Pursuant to SSM 089-32033-00453, for all pumps involved in heavy liquid service, after the completion of the WRMP project, the Permittee shall control leaks of VOC from pumps according to the Leak Detection and Repair (LDAR) Plan submitted in accordance with Condition D.25.6. An instrument reading of 2000 parts per million (ppm) or greater shall constitute a leak for pumps in heavy liquid service.~~

D.25.2 Emission Offset [326 IAC 2-3]

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following for the dewatering systems:

(a) The VOC emissions from the DNF dewatering systems shall not exceed 7.3 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the Tank Cleaning Dewatering System, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.5 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the VOC emissions limits , in conjunction with the emissions limits in Condition D.26.6, shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

D.25.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.25.~~3~~**4** Petroleum Refineries [326 IAC 8-4-2]

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D.25.~~4~~**5** Wastewater / Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for all wastewater tanks and waste streams associated with the dewatering ~~and thermal desorption~~ system**s**, individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

(b) ***

(c) Pursuant to 40 CFR 63.640(o)(1), a Group 1 wastewater stream that is managed in a piece of equipment subject to both 40 CFR 63, **S**~~s~~ubpart CC and 40 CFR 60, **S**~~s~~ubpart QQQ is required to comply with only the provisions of 40 CFR 63, **S**~~s~~ubpart CC specified in Section E.1.

D.25.~~5~~**6** Equipment Leaks of Volatile Organic Compounds (VOC) ~~and Hazardous Air Pollutants (HAPs) [326 IAC 20-16-1] [40 CFR 63, Subpart CC]~~ [326 IAC 8-4-8] ~~[326 IAC 12] [40 CFR 60, Subpart GGGa]~~

~~(a)~~ Pursuant to 326 IAC 8-4-8, the Permittee shall control leaks of VOC from pumps, compressors, valves, process drains, and pressure relief devices according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. If IDEM, OAQ determines that the procedures specified in the LDAR Plan will not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request the Permittee to revise the plan.

~~(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements of Sections E.1 and E.2 for equipment leaks of HAP from pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines or valves, and instrumentation systems.~~

~~(c) Pursuant to SSM 089-32033-00453 and as specified by the Consent Decree entered in Civil No. 2:12-CV-00207, the Dewatering & Thermal Desorption System is an affected facility pursuant to 40 CFR 60, Subpart GGGa, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, and the following shall apply:~~

~~(1) The Permittee shall comply with the requirements specified in Section E.25 – 40 CFR 60, Subpart GGGa and Section E.26 – 40 CFR 60, Subpart VVa for equipment leaks of VOC from each, valve, pump, pressure relief device, sampling connection system, open ended valve or line, and flange or other connector in VOC service at the Dewatering & Thermal Desorption System no later than one year from the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207.~~

~~(2) Entry of the Consent Decree in Civil No. 2:12-CV-00207 satisfies the following notification and testing requirements that are triggered by initial applicability of 40~~

~~CFR 60, Subparts A and GGGa: 40 CFR 60.7, 60.8, 60.18 (but only with respect to the following flares: FCU, Alky, 4UF, DDU, SRU and VRU), 60.482-1a(a), 482-2a(e), 482-7a(f), 60.485a-(g), and 60.487a-(e).~~

D.25.7 VOC Control

(a) In order to ensure compliance with Condition D.25.2, the carbon canisters for VOC control shall be in operation and control emissions from the DNF dewatering system and the Tank Cleaning Dewatering System at all times the DNF dewatering system and the Tank Cleaning Dewatering System are in operation.

(b) Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraphs 52.a.i and ii, of section J of the Consent Decree entered in Civil No. 2:12-CV-00207, the vapor recovery and carbon canister systems for the DNF dewatering system, and Tank Cleaning Dewatering System shall consist of primary and secondary carbon canisters, operated in series (the "dual-canister" option). BP may comply with the requirements of the dual canister option required under this sub-paragraph by using a single canister with a "dual carbon bed" if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with the following:

(1) BP shall conduct breakthrough monitoring between the primary and secondary carbon canisters or beds when there is actual flow to the carbon canister. Such monitoring shall be conducted in accordance with the frequency specified in 40 CFR 61.354(d) using as the design basis the applicable breakthrough definition specified in sub-paragraph 52.a.iii of section J of the Consent Decree entered in Civil No. 2:12-CV-00207 (Condition D.25.9(d)). If a carbon canister or bed becomes unsafe to monitor because it is located within a temporary exclusion zone, BP shall monitor the canister or bed as soon as is practicable after the exclusion zone is no longer in effect, but in no case later than the end of the normal monitoring interval for the canister or bed or within 3 days of the end of the exclusion period, whichever is sooner.

(c) In order to demonstrate compliance with Condition D.25.2, monthly emissions from the DNF dewatering system and the Tank Cleaning Dewatering System shall be calculated as follows:

VOC Emissions (ton/month) = $\Sigma^n[C_{VOC} * 10^{-6} * F_{Vent} * MW * P / (R * T)] / 2000$ (lb/ton)

where:

n =	**number of days per month;**
C_{VOC} (ppmv) =	**measured VOC concentration at carbon canister outlet or 50 ppmv;**
F_{Vent} (scf/day) =	**daily average carbon canister vent exhaust flow, at 519.7 R (60°F) and 14.7 psia (1 atm);**
MW (lb/lbmol) =	**molecular weight of vent exhaust as determined by Condition D.25.8 - Sampling Requirements;**
P (psia) =	**14.7 psia;**
T (R) =	**519.7 R; and**
R (ft^3 psi R^{-1} $lbmol^{-1}$) =	**Universal Gas Constant, 10.731 ft^3 psi R^{-1} $lbmol^{-1}$.**

If the Permittee opts to use the measured VOC concentration in lieu of 50 ppmv, the VOC concentration shall be determined in accordance with 40 CFR 61.354(a)(1), as in effect on May 13, 2013.

D.25.8 Sampling Requirements

(a) Not later than 30 days after the startup of the DNF dewatering system, the Permittee shall sample and determine the molecular weight of the vent exhaust from the duel carbon canisters controlling the DNF dewatering system. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

(b) The Permittee shall sample and determine the molecular weight of the vent exhaust from the duel carbon canisters controlling the Tank Cleaning Dewatering System at least once per quarter when the Tank Cleaning Dewatering System is in operation or once per cleaning event, whichever is more frequent.

~~D.25.6 Standards of Performance for Petroleum Refineries [326 IAC 12] [40 CFR 60, Subpart Ja]~~

~~Pursuant to 40 CFR 60, Subpart Ja, the Permittee shall comply with the requirements specified in Section E.2 for the two (2) thermal desorption burners.~~

~~D.25.7 Consent Decree (Civil No. 2:12-CV-00207) Requirements~~

~~Pursuant to SSM 089-32033-00453 and as required by the Consent Decree entered in Civil No. 2:12-CV-00207, upon the "Date of Entry" of the Consent Decree in Civil No. 2:12-CV-00207, "fuel oil" shall not be burned in the two (2) thermal desorption burners.~~

Compliance Monitoring Requirements

D.25.~~8~~**9** Monitoring for Equipment Leaks of VOC [326 IAC 8-4-8]

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D.25.10 Carbon Canister Monitoring

In order to demonstrate compliance with Condition D.25.1, the Permittee shall comply with the following:

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the dual carbon canisters for measuring the vent exhaust flow rate. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes.

(b) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(1) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(2) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(c) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and

either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(d) Breakthrough Definition:
Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraph 52.a.iii of Section J of the Consent Decree entered in Civil No. 2:12-CV-002072, breakthrough shall be considered either 50 ppmv VOC or 1 ppmv benzene. BP shall immediately replace the primary carbon canister or bed when the design value for the primary canister or bed is exceeded (as monitored between the primary and secondary carbon canisters or carbon beds). Unless both the primary and secondary carbon canisters or beds are replaced with fresh ones, the original secondary carbon canister or bed shall become the new primary carbon canister or bed and a fresh secondary carbon canister or bed shall be installed. In all cases, any carbon canister or bed used as the primary unit shall have sufficient capacity to meet the breakthrough definition of this sub-paragraph. For purposes of this sub-paragraph, "immediately" means no later than within twenty-four (24) hours.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.25.~~9~~**11** Record Keeping Requirements

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~~(c) Pursuant to 40 CFR 60, Subpart Ja, the Permittee shall keep records as specified in Section E.18.~~

(~~d~~**c**) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.25.~~5~~**6**, the Permittee shall comply with equipment leak record keeping requirements specified in the LDAR plan.

~~(e) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC and to demonstrate compliance with Condition D.25.5(b) and (c), the Permittee shall maintain the records specified in Sections E.1, E.4, E.25 and E.26.~~

(d) In order to demonstrate the compliance status with Conditions D.25.2, D.25.7, and D.25.8, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC limit established in Condition D.25.2:

(1) The number of days per month used in the equation in Condition D.26.7(d).

(2) The C_{VOC} used to calculate the equation in Condition D.26.7(d).

(3) The daily average carbon canister vent exhaust flow, at 519.7 R (60° F) and 14.7 psi (1 atm).

(4) The molecular weight of the vent exhaust for the DNF dewatering system and Tank Cleaning Dewatering System.

(5) The VOC emissions from the DNF dewatering system (ton/month).

(6) The VOC emissions from the Tank Cleaning Dewatering System (ton/month).

(e) In order to demonstrate the compliance status with Condition D.25.10:

(1) If a carbon adsorber that regenerates the carbon bed directly on site in the control device is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas stream. If the concentration of organics or the concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(2) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

(f) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph**s (c) and** (d) of this condition.

D.25.~~10~~**12** Reporting Requirements

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~~(c) Pursuant to 40 CFR 60, Subpart Ja, the Permittee shall submit reports as specified in Section E.18.~~

(~~d~~**c**) Pursuant to 326 IAC 8-4-8 and to document the compliance status with Condition D.25.~~5~~**6**, the Permittee shall submit reports as specified in the LDAR plan.

~~(e) Pursuant to 40 CFR 60, Subpart GGGa and 40 CFR 63, Subpart CC and to demonstrate compliance with Condition D.25.5(b and (c), the Permittee shall submit reports as specified in Sections E.1, E.4, E.25 and E.26.~~

(d) A quarterly summary of the information to document the compliance status with Condition D.25.2 shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(~~f~~**e**) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph**s (c) and** (d) of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.26 FACILITY OPERATION CONDITIONS - Wastewater Treatment Plant

Facility Description [326 IAC 2-7-5(14)]:

(z) Wastewater Treatment Plant (WWTP), identified as Unit ID 544. This facility treats the water used in the refining process that comes into contact with oil or chemicals. In the first step, the heavier solids are removed at the inlet to the WWTP and the floating oil is skimmed from the surface of the wastewater in the API separator boxes. The oil is then recycled back to the refinery. The water is then aerated in the Air Flotation Unit where additional solid impurities are floated and skimmed. **As part of the Lakefront Upgrades (LFU) Project, approved in 2014 for modification, the larger solids in the wastewater will be removed in the new Solids Collection System. Then the wastewater will be routed to tanks TK-5050, TK-5051 and TK-**

5052, which will operate in parallel and serve as oil-water separators, equalization, and stormwater surge. Floating oil will be separated and skimmed from the tanks and recycled. The water will be routed to the new Dissolved Nitrogen Floatation (DNF) Units to remove suspended solids and oil, which will be floated and skimmed. Thereafter, it moves to the Activated Sludge Plant where special bacteria digest the remaining contaminants. The water then passes through a clarifier and then final filters before being returned to Lake Michigan. This facility includes the following emission sources and may include insignificant activities listed in section A.4 of this permit:

(1) The following units are equipped with closed vent systems: oil sump P-1, oil sump P-2, **solids tank TK-562, which will vent to carbon canisters by no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, installed as a part of the Lakefront Upgrades Project;** and ~~Diffused~~ **Dissolved** Air Floatation (DAF) Secondary Boxes, which vent to a biofilter and carbon canisters; Tank 569 is equipped with a conservation vent.

(2) The following units are equipped with a fixed-roof or floating roof: Interceptor Box, Diversion Box (from Tank TK-5051 to DAF), DAF Flash Mixer, DAF Influent Channel, DAF Effluent Channel, DAF Primary Boxes, and DAF Sump.

(3) One (1) **oil-water separation, equalization, and stormwater surge** ~~storage~~ tank (identified as Tank TK-5051) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988 and equipped with an external floating roof.

(4) One (1) **oil-water separation, equalization, and stormwater surge** ~~storage~~ tank (identified as Tank TK-5050) having a maximum storage capacity of 10,000,000 gallons, constructed in 1988. ~~This tank is used for storm event and upset impoundments.~~ **As part of the Lakefront Upgrades Project, TK-5050 will be equipped with an external floating roof, constructed in 2014.**

(5) Seven (7) oil-water/solids separator units enclosed with a fixed-roof: Bar Screen, #7 API Separator Fixed Cover, #7 API Separator Primary Inlet, #7 API Separator Secondary Inlet, #7 API Separator Secondary Outlet, #7 API Separator Inlet Channel Section, and #7 API Separator Gear Boxes.

(6) One (1) **oil-water separation, equalization, and stormwater surge** ~~storage~~ tank (identified as Tank TK-5052) having a maximum storage capacity of 11,676,000 gallons, ~~to be~~ constructed as part of the WRMP Project. This tank ~~will be used as a stormwater equalization tank and~~ is equipped with an external floating roof.

(7) A brine treatment system with four (4) fixed roof tanks equipped with an iron sponge, constructed as part of WRMP project, identified as:

(A) TK-101, with a storage capacity of 128,972 gallons;
(B) TK-102, with a storage capacity of 128,972 gallons;
(C) TK-103, with a storage capacity of 128,972 gallons; and
(D) TK-104, with a storage capacity of 51, 580 gallons.

(8) A Dissolved Nitrogen Floatation (DNF) system, which vents to a dual carbon canister system, approved in 2014 for construction, as part of the Lakefront Upgrades Project, identified as:

(A) Four (4) parallel units, T-310, T-320, T-330, and T-340, with a maximum annual flow of 9,855 million gallons per year; and

(B) Two (2) fixed-cover float and sludge handling tanks, TK-303 and TK-304, with a storage capacity of 12,666 gallons each.

(9) One (1) Solids Collection System, which vents to a dual carbon canister system and consists of the J-92 pump lift station and strainer backwash system, with a storage capacity of 318,434 gallons, constructed as part of the Lakefront Upgrades Project.

(10) Leaks from process equipment including pumps, valves, pressure relief devices, sampling connection systems, open-ended valves or lines, and instrumentation systems.

(11) Sewer components associated with the Lakefront Upgrades Project.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.26.1 Petroleum Refineries [326 IAC 8-4-2]

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D.26.2 Wastewater / Waste Streams [326 IAC 20-16-1][40 CFR 63, Subpart CC] [326 IAC 14] [40 CFR 61, Subpart FF] [326 IAC 12] [40 CFR 60, Subpart QQQ]

(a) Pursuant to 40 CFR 63, Subpart CC and 40 CFR 61, Subpart FF, the Permittee shall comply with the requirements specified in Sections E.1 and E.3 for **the Dissolved Nitrogen Floatation (DNF) System,** tanks **TK-5050,** TK-5051**,** and TK-5052, **float and sludge handling tanks TK-303, TK-304, and TK-562, the solids collection system,** individual drain systems, oil water separators, and closed vent systems and control devices subject to 40 CFR 63, Subpart CC wastewater requirements and 40 CFR 61, Subpart FF.

***

(d) Pursuant to 40 CFR 63.647 of 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements of 40 CFR 61, Subpart FF, specified in Section E.3, for **the Dissolved Nitrogen Floatation (DNF) System,** ~~stormwater equalization~~ tank**s TK-5050, TK-5051, and** TK-5052, **the float and sludge handling tanks TK-303, TK-304, and TK-562, the solids collection system,** and the four tanks in the brine treatment system (TK-101, TK-102, TK-103 & TK-104).

***

D.26.6 Emission Offset [326 IAC 2-3] Minor Limits

In order to render 326 IAC 2-3 not applicable, the Permittee shall comply with the following:

(a) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System, constructed as part of the Lakefront Upgrades Project, shall not exceed 10.4 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the Solids Collection System, constructed as part of the Lakefront Upgrades Project, shall not exceed 0.87 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) By no later than the startup of the new Dissolved Nitrogen Floatation (DNF) System, constructed as a part of the Lakefront Upgrades Project, emissions from TK-562 shall be routed to a carbon canister control device that meets all applicable control and/or treatment requirements under the Benzene Waste Operations NESHAP.

Compliance with the VOC emissions limits, in conjunction with the emissions limits in Condition D.25.1,shall ensure that the project emissions increases, including fugitive emissions, for VOC for the Lakefront Upgrades Project remain below the significant levels, rendering 326 IAC 2-3 not applicable for these pollutants.

D.26.7 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.26.8 VOC Control

(a) In order to ensure compliance with Condition D.26.6, the carbon canisters for VOC control shall be in operation and control emissions from the Dissolved Nitrogen Floatation (DNF) System, Solids Collection System, and TK-562 at all times the DNF, Solids Collection System, and TK-562 are in operation.

(b) Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraphs 52.a.i and ii, of section J of the Consent Decree entered in Civil No. 2:12-CV-00207, the vapor recovery and carbon canister systems for the Dissolved Nitrogen Floatation (DNF) System, Solids Collection System, and TK-562 shall consist of primary and secondary carbon canisters, operated in series (the "dual-canister" option). BP may comply with the requirements of the dual canister option required under sub-paragraph by using a single canister with a "dual carbon bed" if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with the following:

(1) BP shall conduct breakthrough monitoring between the primary and secondary carbon canisters or beds when there is actual flow to the carbon canister. Such monitoring shall be conducted in accordance with the frequency specified in 40 CFR 61.354(d) using as the design basis the applicable breakthrough definition specified in sub-paragraph 52.a.iii of section J of the Consent Decree entered in Civil No. 2:12-CV-00207 (Condition D.26.10(d)). If a carbon canister or bed becomes unsafe to monitor because it is located within a temporary exclusion zone, BP shall monitor the canister or bed as soon as is practicable after the exclusion zone is no longer in effect, but in no case later than the end of the normal monitoring interval for the canister or bed or within 3 days of the end of the exclusion period, whichever is sooner.

(c) In order to demonstrate compliance with Condition D.26.6(a), monthly emissions from the Dissolved Nitrogen Floatation (DNF) System shall be calculated as follows:

VOC Emissions (ton/month) = $\Sigma^n[C_{VOC} * 10^{-6} * F_{Vent} * MW * P / (R * T)] / 2000$ (lb/ton)

where:

n =	**number of days per month;**
C_{VOC} (ppmv) =	**measured VOC concentration at carbon canister outlet or 50 ppmv;**
F_{Vent} (scf/day) =	**daily average carbon canister vent exhaust flow, at 519.7 R (60°F) and 14.7 psia (1 atm);**
MW (lb/lbmol) =	**molecular weight of vent exhaust as determined by Condition D.26.9 - Sampling Requirements.**
P (psia) =	**14.7 psia;**

T (R) = 519.7 R; and
R (ft^3 psi R^{-1} $lbmol^{-1}$) = Universal Gas Constant, 10.731 ft^3 psi R^{-1} $lbmol^{-1}$.

If the Permittee opts to use the measured VOC concentration in lieu of 50 ppmv, the VOC concentration shall be determined in accordance with 40 CFR 61.354(a)(1), as in effect on May 13, 2013.

(d) In order to demonstrate compliance with Condition D.26.6(b), monthly emissions from the Solids Collection System shall be calculated as follows:

VOC Emissions (ton/month) = $[(N * EF_{WORKING}) + E_{STANDING}] / 2000$ (lb/ton)

where:
N = number of roll off boxes generated from the Solids Collection System J-92 strainer backwash system per month;
$EF_{WORKING}$ (lbs VOC / roll off box) = working loss VOC emission factor, 3.70 lbs VOC / roll off box; and
$E_{STANDING}$ (lbs VOC / month) = standing loss VOC emissions, 3.78 lbs VOC / month.

D.26.9 Sampling Requirements

Not later than 30 days after the startup of the Dissolved Nitrogen Floatation (DNF) System, the Permittee shall sample and determine the molecular weight of the vent exhaust from the duel carbon canisters controlling the Dissolved Nitrogen Floatation (DNF) System. Subsequent sampling and determination of molecular weight shall be performed at least once per quarter.

Compliance Monitoring Requirements

D.26.10 Carbon Canister Monitoring

In order to demonstrate compliance with Condition D.26.6, the Permittee shall comply with the following:

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the dual carbon canisters for measuring the vent exhaust flow rate. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes.

(b) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(1) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(2) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(c) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with

fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(d) Breakthrough Definition:
Pursuant to Significant Source Modification 089-33530-0045, per sub-paragraph 52.a.iii of Section J of the Consent Decree entered in Civil No. 2:12-CV-002072, breakthrough shall be considered either 50 ppmv VOC or 1 ppmv benzene. BP shall immediately replace the primary carbon canister or bed when the design value for the primary canister or bed is exceeded (as monitored between the primary and secondary carbon canisters or carbon beds). Unless both the primary and secondary carbon canisters or beds are replaced with fresh ones, the original secondary carbon canister or bed shall become the new primary carbon canister or bed and a fresh secondary carbon canister or bed shall be installed. In all cases, any carbon canister or bed used as the primary unit shall have sufficient capacity to meet the breakthrough definition of this sub-paragraph. For purposes of this sub-paragraph, "immediately" means no later than within twenty-four (24) hours.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.26.~~6~~**11** Record Keeping Requirements

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(d) In order to demonstrate the compliance status with Condition D.26.6(a), D.26.8, and D.26.9, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC limit established in Condition D.26.6(a):

(1) The number of days per month used in equation D.26.8(c).

(2) The C_{VOC} used to calculate the equation in Condition D.26.8(c).

(3) The daily average carbon canister vent exhaust flow, at 519.7 R (60° F) and 14.7 psi (1 atm).

(4) The molecular weight of the vent exhaust for the Dissolved Nitrogen Floatation (DNF) System.

(5) The VOC emissions from the Dissolved Nitrogen Floatation (DNF) System (ton/month).

(e) In order to demonstrate the compliance status with Condition D.26.6(b), the Permittee shall maintain records in accordance with (1) through (2) below. Records maintained for (1) through (2) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC limit established in Condition D.26.6(a):

(1) The number of roll off boxes generated from the Solids Collection System J-92 strainer backwash system per month.

(2) The VOC emissions from the Solids Collection System (ton/month).

(f) In order to demonstrate the compliance status with Condition D.26.10:

(1) If a carbon adsorber that regenerates the carbon bed directly on site in the control device is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas stream. If the concentration of organics or the concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(2) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

(~~d~~**g**) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by Paragraph**s** (c)**, (d), (e), and (f)** of this condition.

D.26.~~7~~**12** Reporting Requirements

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(d) A quarterly summary of the information to document the compliance status with Condition D.26.6 shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(~~d~~**e**) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by Paragraph**s** (c) **and (d)** of this condition. A quarterly report does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 089-33530-00453 and Significant Permit Modification No. 089-33532-00453. The staff recommend to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Kristen Willoughby at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-3031 or toll free at 1-800-451-6027 extension 3-3031.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Table 1 - Lakefront Upgrades Project
Potential to Emit PSD / Emission Offset Determination
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Pollutant	New Emissions Units[1]						Modified Emission Units[2]	Hybrid Test Project Emissions Increase (tpy)	PSD Significance Level (tpy)	Emission Offset Significance Level (tpy)[3]	NSR / PSD Review Required?
	PTE Fugitives - Equipment Leaks (tpy)	PTE Fugitives - Sewers (tpy)	Limited PTE - DNF (tpy)	Limited PTE - Solids Collection (tpy)	Limited PTE - DNF Dewatering System (tpy)	Limited PTE - Tank Cleaning Dewatering System (tpy)	Actual-to-Potential Emissions Increase -TK-5050 (tpy)				
VOC	2.70	5.33	10.4	0.87	7.3	0.5	0.00	27.02	-	40	No
NO_x	-	-	-	-	-	-	-	-	40	40	No
PM	-	-	-	-	-	-	-	-	25	-	No
PM_{10}	-	-	-	-	-	-	-	-	15	-	No
$PM_{2.5}$	-	-	-	-	-	-	-	-	10	-	No
SO_2	-	-	-	-	-	-	-	-	40	-	No
CO	-	-	-	-	-	-	-	-	100	-	No
H_2SO_4	-	-	-	-	-	-	-	-	7	-	No
Pb	-	-	-	-	-	-	-	-	0.6	-	No
H_2S/TRS	0.01	0.02	0.94	0.04	-	-	0.00	1.01	10	-	No
CO_2e	-	-	-	-	-	-	-	-	75,000	-	No

[1] New emission units include some existing units which have been repurposed as part of this project. Therefore, these units are treated like new units.

[2] For TK-5050, the LFU Project will reduce the future VOC emissions from the tank. Therefore, there will be no emissions increase from TK-5050 as a result of the project.
For TK-562, the future potential VOC emissions from the tank will be lower than the current actual emissions. Therefore, there will be no emissions increase from TK-562 as a result of the project.

[3] U.S. EPA has designated Lake County, Indiana as marginal nonattainment for ozone. VOC and NOx information is presented here for the purpose of an evaluation with respect to the 8-hour ozone standard.

Appendix A: Emissions Calculations
Table 2 - Lakefront Upgrades Project
Potential to Emit Part 70 Permit Level Determination
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Pollutant	Potential to Emit of New and Modified Units[1]							Total (tpy)	Minor Source Modification Level[2] (tpy)	Significant Source Modification Level[3] (tpy)
	Fugitive Emissions - Equipment Leaks (tpy)	Fugitive Emissions - Sewers (tpy)	DNF (tpy)	Solids Collection (tpy)	TK-5050[4] (tpy)	DNF Dewatering System (tpy)	Tank Cleaning Dewatering System (tpy)			
VOC	2.70	5.33	206.96	7.19	-	145.20	9.75	377.13	10	25
NO_x	-	-	-	-	-	-	-	-	10	25
PM	-	-	-	-	-	-	-	-	5	25
PM_{10}	-	-	-	-	-	-	-	-	5	25
$PM_{2.5}$	-	-	-	-	-	-	-	-	5	25
SO_2	-	-	-	-	-	-	-	-	10	25
CO	-	-	-	-	-	-	-	-	25	100
H_2S/TRS	1.23E-02	0.024	0.943	0.033	-	-	-	1.01	5	25
CO_2e	-	-	-	-	-	-	-	-	75,000	100,000

[1] Potential to emit is determined based upon the new equipment being installed by the LFU Project.

[2] Per 326 IAC 2-7-10.5(e)(3)(B)(iii) and 326 IAC 2-7-10.5(e)(9)(A), any modification with a potential to emit of greater than 10 tpy or 15 lbs/day of VOC shall be processed in accordance with the minor source modification provisions of 326 IAC 2-7-10.5(f).

Per 326 IAC 2-7-10.5(e)(3)(F)(i), any modification with a potential to emit of greater than 5 tpy hydrogen sulfide shall be processed in accordance with the minor source modification provisions of 326 IAC 2-7-10.5(f).

[3] Per 326 IAC 2-7-10.5(g)(4)(D) or (E), any modification with a potential to emit of greater than 25 tpy of VOC or hydrogen sulfide shall be processed in accordance with the significant source modification provisions of 326 IAC 2-7-10.5(h).

[4] For TK-5050, the LFU Project will reduce the future VOC emissions from the tank. Therefore, there will be no emissions increase from TK-5050 as a result of the project.

Appendix A: Emissions Calculations
Table 3 - Lakefront Upgrades Project
Potential to Emit VOC Equipment Leaks
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

LDAR Program: Monitoring per 326 IAC 8-4-8 [1]
Factor Type: Refinery Screening (EPA Emission Factors EPA-453/R-95-017, Table 2-6)
Annual Hours of Service: 8760

Component Type	Estimated Component Count [3]	EPA 'Refinery Screening' Factors LEAK (lb/hr/component)	EPA 'Refinery Screening' Factors NO LEAK (lb/hr/component)	Percent Leak	Maximum Uncontrolled Emission Rate (lbs/hr)	LDAR Control Efficiency [2]	Percent in VOC Service	Total VOC Emissions (Tons/yr)	Total VOC Emissions (lbs/day)
Valves									
Gas/Vapor	0	0.5789	0.0013	2.0%	0.0000	30%	100%	0.00	0.00
Light Liquid	100	0.1878	0.0037	2.0%	0.7382	30%	100%	2.26	12.40
Heavy Liquid	0	0.00051	0.00051	2.0%	0.0000	30%	100%	0.00	0.00
Pumps									
Light Liquid - Single Seal [2]	0	0.9630	0.0265	2.0%	0.0000	30%	100%	0.00	0.00
Light Liquid - Dual Seal [4]	8	0.9630	0.0265	2.0%	0.3618	100%	100%	0.00	0.00
Heavy Liquid	0	0.8565	0.02976	2.0%	0.0000	30%	100%	0.00	0.00
Flanges[5]									
Gas/Vapor	0	0.0827	0.00013	0.3%	0.0000	30%	100%	0.00	0.00
Light Liquid	378	0.0827	0.00013	0.3%	0.1428	30%	100%	0.44	2.40
Heavy Liquid	0	0.0827	0.00013	0.3%	0.0000	30%	100%	0.00	0.00
Compressors [4]	0	3.545	0.1971	2.0%	0.0000	100%	100%	0.00	0.00
Relief Valves [6]	5	3.728	0.0985	2.0%	0.8555	100%	100%	0.00	0.00
Open-ended Lines	0	0.02635	0.0033	2.0%	0.0000	0%	100%	0.00	0.00
Sampling Connections [7]	3	0.0827	0.00013	2.0%	0.0053	100%	100%	0.00	0.00
							Total VOC Emissions:	**2.70**	**14.80**

[1] Equipment installed as a part of the Lakefront Upgrades Project will comply with Indiana leak detection and repair (LDAR) standards (pursuant to 326 IAC 8-4-8).

Per BP Whiting's 326 IAC 8-4-8 LDAR program, valves in liquid service are monitored annually at a leak definition of 10,000 ppm. Additionally, AVO work practices apply to all equipment that is in VOC and/or HAP service.

[2] 30% control estimate is per TCEQ Guidance "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives" (October 2000).

[3] Estimates are based upon the preliminary project equipment list and assumptions provided by the Lakefront Upgrades Project team in May 2013. Emissions from components not "in VOC service" are considered negligible.

[4] Light liquid pumps and compressors will have dual mechanical seals with a barrier fluid maintained at a higher pressure than the pumped fluid or compressed gas. The control efficiency of dual mechanical seals is 100%, per Table 5-1 in EPA-453/R-95-017

[5] Assumed number of flanges / connectors per valve is 3.5, based on Appendix A of API publication # 343.

[6] RV discharge from the pumps will be routed to the pump's suction line during normal operations, as such the control efficiency is assumed to be 100%.

[7] Any new sample connections installed will be closed-loop systems. The efficiency of a closed-loop system is assumed to be 100% per section 5.2.8 in EPA-453/R-95-017 Protocol for Equipment Leak Emissions Estimates.

Appendix A: Emissions Calculations
Table 4 - Lakefront Upgrades Project
Potential to Emit VOC Sewer Components
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Component Type[1]	No. of Components[2]	VOC Emission Factor[3]		Emissions (kg/hr)
Controlled Drains	37	0.35	kg/day/unit	0.53
Sealed Manholes	3	0.16	kg/day/unit	0.02

Total VOC Emissions:	kg/hr	0.55
	lb/d	29.23
	lb/yr	10,668
	TPY	**5.3**

[1] As a part of the LFU project, BP will also construct paving drains, junction boxes and cleanouts in stormwater service. Components servicing only stormwater are expected to have negligible emissions, thus only process sewer components are included in this analysis.

[2] Process sewer component estimates provided by Jacobs Engineering for the project in June 2013.

[3] Emission factor references per component type:

Component Type	VOC Emissions Factor per Component	Units	Source[4]	Ref.
Uncontrolled Drain	0.69	kg/day/unit	AP-42 (e.g. 450/650)	Table 5.1-3
Controlled Drain (with water trap – 50% control of AP-42)	0.35	kg/day/unit	BIDa	Pg. 4-9
Uncontrolled Junction Box (same as an Uncontrolled Drain)	0.69	kg/day/unit	AP-42 (ref. BIDa)	Pg. 3-27
Sealed Manway Cover (gasketed – 77% of AP-42)	0.16	kg/day/unit	BIDb	Pg. 2-23

[4]Notes:

BIDa - Background Information Document to Proposed NSPS QQQ, Feb. 1985.

BIDb - Background Information Document to Proposed NSPS QQQ, Dec. 1987.

AP-42 - AP 42, Fifth Edition, Volume I Chapter 5.1 Petroleum Refining, Jan. 1995.

Appendix A: Emissions Calculations
Table 5 - Lakefront Upgrades Project
Potential to Emit H2S / TRS Equipment Leaks and Sewer Components
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Emissions Source	VOC Emissions (tpy)[1]	H_2S Emission Factor (lb H_2S/lb VOC)[2]	H_2S/TRS Emissions (tpy)[3]
Fugitive Equipment Leaks	2.7	0.0046	0.0123
Sewer Fugitives	5.3		0.024
		TOTAL H_2S (tpy):	**0.0366**

[1] Potential H_2S/TRS emissions are estimated using the calculated VOC leak rate and assuming a percentage of the emitted material is in the form of H_2S/TRS. Refer to Table 3 for calculation of fugitive VOC from new LDAR components and Table 4 for fugitive VOC from new sewer components.

[2] H_2S emission factor was obtained from the ratio of the calculated H_2S emission rate (lb/hr) to VOC emission rate (lb/hr) generated using WATER9 for the DNF potential case.

[3] H_2S emissions are assumed equivalent to emissions of total reduced sulfur (TRS), as H_2S is expected to be the only reduced sulfur compound present in appreciable quantity.

Appendix A: Emissions Calculations
Table 6a - Lakefront Upgrades Project
Potential to Emit VOC and H2S Dissolved Nitrogen Floatation Units
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Floatation Units - T-310, T-320, T-330, T-340[1]

Inputs to WATER9:

Untreated Wastewater Flow[2]			Recycle Water Flow[2]	Oil and Grease In[4]	Oil and Grease Out	Nitrogen Rate[3]
gpm	10^6 gal/yr	MGD	gpm	ppmw	ppmw	scfh
18,750	9,855	27	4,000	1,000	30	1634

Emission Results:

Pollutant	Concentration In[4]	Concentration Out[4]	Total Load to Control Device		Control Efficiency[5]	Emissions to Atmosphere	
	ppmw	ppmw	lb/hr	tpy	%	lb/hr	tpy
VOC	814.10	799.45	41.71	182.7	95.00	2.1	9.1
H2S	16.00	15.93	0.19	0.8	0.00	0.2	0.8

[1] Potential emissions are calculated for four (4) DNF units operated in parallel.

[2] The total untreated wastewater and recycle flow rate for 4 DNF units are based on a maximum annual average flow of 27 million gallons per day (MGD).

[3] Total nitrogen rate, including the nitrogen used for floatation and for purging the vapor space.

[4] Values are generated using WATER9, assuming the peak design case for oil and grease (1000 mg/L) and temperature (104.62 °F) from historical data. Refer to Appendix C for additional details. The total suspended solids (TSS) and total dissolved solids (TDS) of 1000 and 1140 mg/L, respectively, in the untreated wastewater are provided from the project design basis.

[5] Pursuant to 40 CFR 61.349(a)(2)(iv)(b), the control device will achieve an emission control efficiency of either 95 percent or greater for organic compounds.

DNF - Maintenance Operations

VOC Concentration[1] (%)	1%
Design Release Rate per DNF unit (scfm)	232
Release Time (min)	12
Frequency of Releases[2]	8
Molecular Weight (lbs/lb-mol)	90
R Conversion (ft3/lb-mol)	379.48
Uncontrolled VOC (lb/hr) per DNF per Event	**33.01**
Uncontrolled H2S (lb/hr) per DNF per Event[3]	**0.150**
Uncontrolled VOC (tpy) Total for all DNFs	**0.026**
Uncontrolled H2S (tpy) Total for all DNFs	**0.00012**

[1] Per the project design basis, the VOC concentration would be 1% of the vapor stream with a molecular weight 90.

[2] Operations expects the DNF units will need to be taken down for maintenance semi-annually.

[3] The same ratio of VOC to H2S for fugitive emissions is applicable to maintenance activities.

Appendix A: Emissions Calculations
Table 6b - Lakefront Upgrades Project
Potential to Emit VOC and H2S Float Tanks
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Float Handling Tanks - TK-303 and TK-304[1]

Inputs to TANKS:

Diameter	14	feet
Height	11	feet
Maximum Liquid Height	7	feet
Average Liquid Height	6	feet
Storage Capacity	12,666	gallons each tank
	25,332	gallons total
Working Volume	8,060	gallons each tank
	16,120	gallons total
Throughput[1]	92,162,500	gal/yr each tank
Throughput	0.25	MGD
Turnovers[1]	11,434	per year

[1] Net throughput per year is based on the average case for vendor's guarantee at 3% solids and oil and grease in the float.
Assumes 31.3 turnovers per day, or 11,434 turnovers per year.

Emission Results:

Pollutant	TK-303	TK-304	Total Load to Control Device		Control Efficiency[2]	Emissions to Atmosphere	
	lb/hr	lb/hr	lb/hr	tpy	%	lb/hr	tpy
VOC	2.77	2.77	5.54	24.24	95.00	0.28	1.21
H2S[3]	0.013	0.013	0.025	0.11	0	0.025	0.11

[1] Potential emissions are generated from TANKS for two (2) new fixed cover float tanks using the inputs provided above. Refer to Appendix C for results from the model.

[2] Pursuant to 40 CFR 61.349(a)(2)(iv)(b), the control device will achieve an emission control efficiency of either 95 percent or greater for organic compounds.

[3] TANKS is not set up to allow estimation of H2S emissions. The ratio of H2S and VOC calculated, based on the total H2S flowrate (lb/hr) to total VOC vapor flowrate (lb/hr) generated using WATER9 for DNF potential emissions, is used (similar to fugitive emissions for equipment leaks and sewers).

Appendix A: Emissions Calculations
Table 7 - Lakefront Upgrades Project
Potential to Emit VOC and H2S #7 API Separator - Solids Collection System
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

#7 API Separator - Solids Collection System - Potential to Emit[1]

Fixed Cover Section Per One (1) Box:

Width of One Cover	9	ft
Length of One Cover	49	ft
Depth of One Cover	15	ft
Area of One Cover	441	ft
Number of Covers	2	-
Storage Capacity (Per Box)	98,995	gallons
Storage Capacity (Total for 2 Boxes)	197,990	gallons

Inputs to TANKS:

Diameter	23.696	feet
Maximum Liquid Height	15	feet
Calculated Throughput[2]	5,017,413	gal/yr

Floating Cover Section Per One (1) Box:

Width of One Cover	20	ft
Length of One Cover	35	ft
Depth of One Cover	11.5	ft
Area of One Cover	700	ft
Total Number of Covers	1	
Storage Capacity (Per Box)	60,222	gallons
Storage Capacity (Total for 2 Boxes)	120,444	gallons

Inputs to TANKS:

Diameter	29.85	feet
Calculated Throughput[2]	7,964,148	gal/yr

[1] Two (2) existing API boxes will be converted to function as the new solids collection system with a mixture of fixed and floating covers. Each box consists of two (2) fixed covers and one (1) floating cover.

[2] Emissions are anticipated when the vapor space in the boxes decreases as a result of liquid level increases. Potential to emit VOC emissions are calculated assuming a throughput associated with 10 level changes daily of 5 inches each. Only flow associated with level changes is expected to result in emissions.

Maintenance Emissions - Collection of Solids in a Roll-Off Box[3]

Width of One Box	7	ft
Length of One Box	21	ft
Depth of One Box	7	ft
Area of One Box	145	ft

Inputs to TANKS:

Diameter	13.61	feet
Maximum Liquid Height	5	feet
Operating Volume	5,257	gallons
Calculated Throughput[2]	546,754	gal/yr

[3] Emissions are anticipated during maintenance activities when strainers associated with the Solids Collection System are flushed to fixed-cover roll-off boxes. It is conservatively assumed that two (2) roll-off boxes are filled weekly.

Emission Results (for Entire Solids Collection System):

Pollutant	Uncontrolled Emissions from Fixed Covers	Total Load to Control Device[4]		Control Efficiency[4]	Controlled Emissions from Fixed Covers	Emissions from Floating Covers	Maintenance	Emissions to Atmosphere	
	lbs/year	lb/hr	tpy	%	tpy	lbs/year	lbs/year	lb/hr	tpy
VOC	14377.44	1.64	7.19	95%	0.36	581.70	430.50	0.20	0.87
H_2S[5]	65.49	0.01	0.03	0%	0.03	2.65	1.96	0.01	0.04

[4] Fixed covers will be blanketed with nitrogen rather than a sweep across the liquid and vapor interface. The nitrogen will be added at vapor line that routes vapors to carbon canisters with 95% VOC destruction efficiency. No control is associated with the emissions from floating covers or roll-off boxes.

[5] TANKS is not set up to allow estimation of H_2S emissions. The ratio of H_2S and VOC calculated, based on the total H_2S flowrate (lb/hr) to total VOC vapor flowrate (lb/hr) generated using WATER9 for DNF potential emissions, is used (similar to fugitive emissions for equipment leaks and sewers).

Appendix A: Emissions Calculations
Table 8 - Lakefront Upgrades Project
Potential to Emit VOC from Tank Cleaning Dewatering Systems
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Mass Balance Emissions Calculation:

	DAF Float	API Sludge
Method 8270 (SVOCs)	mg/kg	mg/kg
Anthracene	9.9	20.4
Chrysene	16.5	20.3
Naphthalene	149	24.2
Phenanthrene	97.7	19.3
Pyrene	30.95	17.9
Total SVOCs	**304.05**	**102.04**
Method 8260 (VOC)		
Benzene	110	10.4
Ethylbenzene	245	29.0
Toluene	530	31.3
Xylenes	700	94.1
Total VOC	**1585**	**164.82**

Conversion Factors	
Density of Water (lb/gal)	8.34
Conversion Factor (lb/g)	0.0022
Conversion Factor (mg/g)	1000
Conversion Factor (g/kg)	1000

[1] DAF Float results are maximum values from sludge analytical data from 2000 to 2002 documented in Hazardous Waste Combustor MACT Performance Test Plans
[2] API sludge results are average values from sludge analytical data from 2000 to 2006 documented in I:\ENVIRONMENTAL\Waste\WAS-FBI\FBI_data\Historical FBI Feed Analytical Data (2).xls.

DNF Dewatering System:

Future Annual Average Throughput (gal/day)[1]		505,000
Future Annual Average Throughput (GPM)[1]		350.69
	Feed Rate Capacity (lb/day)	4,211,700
	Feed Rate Capacity (ton/yr)	768,635
Total SVOCs (lb/lb)		0.00030
Total VOCs in Feed (lb/lb)		0.00159
Potential SVOC and VOC throughput (lb/lb)[2]		0.00189
VOC Control Efficiency (%)[3]		95%
Percentage of Volatile Material Processed Emitted at Dewatering (%)[4]		10%
Total Potential Uncontrolled SVOC and VOC emissions (lbs/day)		795.61
Total Potential Controlled SVOC and VOC emissions (lbs/day)		**39.78**
Total Potential Uncontrolled SVOC and VOC emissions (tpy)		145.20
Total Potential Controlled SVOC and VOC emissions (tpy)		**7.26**

[1] Future maximum annual average throughput based on the DNF peak TSS and peak Oil and Grease design case.
[2] Sum of SVOCs and VOCs in DAF float feed.
[3] Based on 40 CFR 61, Subpart FF requirements; Note that carbon actually provides a 99.9% control efficiency if monitored for breakthrough and changed after breakthrough is detected (per carbon system vendors); however, 95% used as a conservative measure in the calculations.
[4] Engineering estimate based on relative non-volatility of material remaining in sludges after processing steps prior to dewatering system. Note that most of the oil will be recovered in the dewatering system.

Dewatering System / Tank Cleaning Centrifuge System:

Maximum Annual Average Throughput (gal/day)[1]		240,000
Future Annual Average Throughput (GPM)[1]		166.67
	Feed Rate Capacity (lb/day)	2,001,600
	Feed Rate Capacity (ton/yr)	365,292
Total SVOCs (lb/lb)		0.000102
Total VOCs in Feed (lb/lb)		0.000165
Potential SVOC and VOC throughput (lb/lb)[2]		0.000267
VOC Control Efficiency (%)		95%
Percentage of Volatile Material Processed Emitted at Dewatering (%)		10%
Total Potential Uncontrolled SVOC and VOC emissions (lbs/day)		53.42
Total Potential Controlled SVOC and VOC emissions (lbs/day)		**2.67**
Total Potential Uncontrolled SVOC and VOC emissions (tpy)		9.75
Total Potential Controlled SVOC and VOC emissions (tpy)		**0.49**

[1] The centrifuge system for the tank cleaning process is based on the removal of 3' of sludge in each tank (12' total) at 2% solids.
[2] Sum of SVOCs and VOCs in feed. It is assumed the tank sludge is similar in composition to the sludge from the #7 API Separator.

Appendix A: Emissions Calculations
Table 9 - Lakefront Upgrades Project
Baseline and Potential VOC and H2S Emissions for TK-5050
Company Name: BP Products North America, Inc. - Whiting Business Unit
Address: 2815 Indianapolis Blvd., Whiting, IN 46394
Significant Source Modification No.: 089-33530-00453
Significant Permit Modification No.: 089-33532-00453
Reviewer: Kristen Willoughby

Inputs to WATER9:

Baseline Period	Untreated Wastewater Flow[1]			Oil Flow Rate	Oil and Grease In
	gpm	10^6 gal/yr	MGD	bbl/day	ppmw
January 2008 - December 2009	208.54	109.61	0.30	31.78	3418

[1] Baseline VOC emissions from TK-5050 are calculated based on the average annual flow for the 24-month period from January 2008 to December 2009.

[2] Dimensions for TK-5050 were inputted into WATER9 as follows:

Diameter	220	feet	
Height	40	feet	
Normal Level	28	feet	*(in equalization service)*
Tank Vapor Space Height	3.66	m	*(in equalization service)*
Open Surface Area of Tank	38,013.3	ft2	

Emission Results:

Pollutant	Concentration In[3]	Concentration Out[3]	Emissions to Atmosphere	
	ppmw	ppmw	lb/hr	tpy
VOC	3011.44	2995.17	1.69	7.42
H2S	0.02	0.0065	0.0018	0.008

[3] Baseline emissions are calculated for an open-top tank in WATER9. Refer to Appendix C for detailed results from the model.

TK-5050 Oil/Water Separator - Potential to Emit

Inputs to TANKS[1]

Diameter	220	feet	Operating Volume[2]	760,265	ft3
Height of Tank	40	feet		5,687,545.62	gal
Level Change[2]	20	feet	Annual Throughput[3]	1,037,977,076	gal/yr
Turnovers[2]	183			2.84	MGD

[1] Potential emissions are generated using TANKS 4.09d for an external floating roof tank. Refer to Appendix C for results from the model.

[2] The emissions are based on a 20 ft. level change on a daily basis for the 220 ft. diameter tank (very conservative based on previously recorded operation of the tank). The operating volume is calculated based on the 20 ft. level change. and the resulting number of turnovers is 183 turnovers/year.

[3] The potential annual throughput is calculated from the operating volume and number of turnovers.

Emission Results:

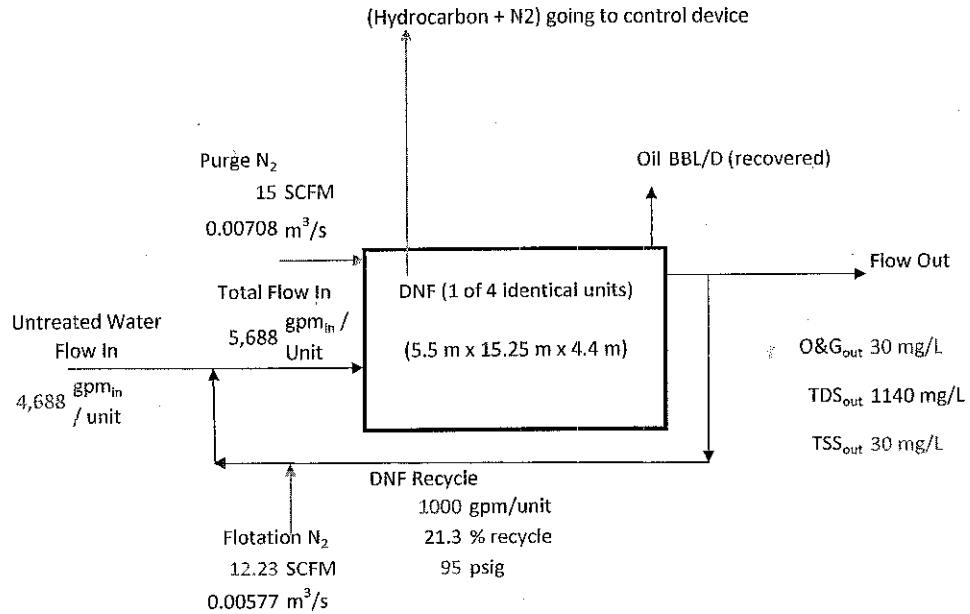
Pollutant	Emissions to Atmosphere		Baseline to Potential[4]
	lb/hr	tpy	tpy
VOC	0.31	1.37	0.00
H2S	0.0014	0.0063	0.00

[4] Baseline to potential comparison indicates there will be no emissions increase from TK-5050 as a result of the project.

Appendix C. Lakefront Upgrades Project
Dissolved Nitrogen Floatation Units Potential to Emit
WATER9 Model Setup

Per DNF (total of 4 DNFs)

	Units in Service	4
DAF Process Data Sheet Rev D comments Rev D2- Rev0	Oil and Grease	1000 mg/L
	Total Suspended Solids (TSS)	1000 mg/L
Gerry's suggestion (call 4/8/13)	Total Dissolved Solids (TDS)	1140 mg/L
Gerry's suggestion (call 4/8/13)	Temperature	90 °F
Email from Gerry (4/3/13)		8.2 pH



Untreated water flow rate	4,688 gpm
Untreated water flow rate	17,742 L/min
Untreated water O&G content	1000 mg/L
Untreated water TSS content	1000 mg/L
Untreated water TDS content	1140 mg/L
Recycle water flow rate	1000 gpm
Recycle water flow rate	3785 L/min
Recycled water O&G content	30 mg/L
Recycled water TSS content	30 mg/L
Recycled water TDS content	1140 mg/L
Total Inlet Flow	21,527 L/min
Total Inlet O&G	17,855,738 mg/min
Total Inlet TSS	17,855,738 mg/min
Total Inlet TDS	24,540,994 mg/min
Inlet Flow	5,688 gpm
Inlet O&G	829.45 mg/L
Inlet TSS	829.45 mg/L
Inlet TDS	1,140.00 mg/L

Appendix C. Lakefront Upgrades Project
Dissolved Nitrogen Floatation Units Potential to Emit
WATER9 Input Data

DNF Water Flow Rate	5,688	GPM	per DNF (total 4 units)
DNF Water Flow Rate	762.13	ft^3/min	
Density of Water	62.40	lb/ft3	
DNF Water Flow Rate	47,556.6	lb/min	
DNF Water Flow Rate	68,481,504	lb/day	
Oil and Grease	829.45	mg/L	
Total Suspended Solids (TSS)	829.45	mg/L	
Total Dissolved Solids (TDS)	1140.00	mg/L	
Temperature	90	°F	
pH	8.2		

Compound in Water9	Conc. in wastewater at inlet to API (ppmw)	Oil and Grease content of WW entering API (mg/L)	Oil and Grease content of WW entering DNF (mg/L)	Conc. in wastewater at inlet to DNF (ppmw)
BENZENE	3.635	880.263	829.45	3.425
CYCLOHEXANE	0.246	880.263	829.45	0.231
HEPTANE(-n)	6.691	880.263	829.45	6.305
HEXANE(-n)	0.783	880.263	829.45	0.738
METHYLCYCLOHEXANE	12.605	880.263	829.45	11.878
OCTANE	18.609	880.263	829.45	17.535
PENTANE	1.952	880.263	829.45	1.839
1-PENTENE	2.269	880.263	829.45	2.138
TOLUENE	21.399	880.263	829.45	20.164
TRIMETHYLPENTANE 2,2,4	2.367	880.263	829.45	2.230
ISOPENTANE	4.128	880.263	829.45	3.890
2 METHYLHEXANE C7H16	0.822	880.263	829.45	0.775
2-METHYL PENTANE C6H14	2.630	880.263	829.45	2.478
3 METHYLHEXANE C7H16	1.007	880.263	829.45	0.949
2,3 DIMETHYLPENTANE C7H16	0.298	880.263	829.45	0.281
2,2 DIMETHYLPENTANE	0.402	880.263	829.45	0.379
2,4 DIMETHYLPENTANE C7H16	0.096	880.263	829.45	0.090
3,3 DIMETHYLPENTANE C7H16	0.049	880.263	829.45	0.046
METHYLCYCLOPENTANE	1.033	880.263	829.45	0.973
CYCLOPENTANE	0.654	880.263	829.45	0.616
cis 1,2 DIMETHYLCYCLOHEXANE	12.385	880.263	829.45	11.670
1,1,3 TRIMETHYLCYCLOPENTANE	8.811	880.263	829.45	8.303
1 HEXENE	0.964	880.263	829.45	0.908
3-ETHYLPENTANE	0.099	880.263	829.45	0.094
4 METHYLHEPTANE	4.735	880.263	829.45	4.462
3,3 DIMETHYLHEXANE	4.735	880.263	829.45	4.462
CUMENE (isopropylbenzene)	1.708	880.263	829.45	1.609
DIETHYLBENZENE P	2.530	880.263	829.45	2.384
ETHYLBENZENE	5.673	880.263	829.45	5.346
TRICOSANE N	80.782	880.263	829.45	76.119
TRIMETHYLBENZENE (1,3,5)	2.931	880.263	829.45	2.762
XYLENE(-m)	15.598	880.263	829.45	14.698
XYLENE(-o)	6.755	880.263	829.45	6.365
XYLENE(-p)	5.292	880.263	829.45	4.987
CYMENE,para	0.824	880.263	829.45	0.776
THYL 4 METHYLBENZENE (p-ethyltolue	0.816	880.263	829.45	0.769
DODECANE (C12 linear)	75.861	880.263	829.45	71.482
UNDECANE (C11 linear)	2.300	880.263	829.45	2.167
NONANE C9H20	7.841	880.263	829.45	7.388
PROPYLCYCLOPENTANE	18.459	880.263	829.45	17.394
PENTYLCYCLOPENTANE	5.859	880.263	829.45	5.521
sec BUTYLBENZENE	0.824	880.263	829.45	0.776
1,2,4,5 TETRAMETHYLBENZENE	1.706	880.263	829.45	1.607
PENTYLBENZENE	1.891	880.263	829.45	1.782
2,2,4,4 TETRAMETHYLPENTANE	13.574	880.263	829.45	12.790
4 METHYLNONANE	12.315	880.263	829.45	11.604
PENTADECANE (C15 linear)	77.806	880.263	829.45	73.315
HEPTADECANE (C17 linear)	78.792	880.263	829.45	74.244
NONADECANE (C19 linear)	79.541	880.263	829.45	74.949
1,2,4-TRIMETHYLBENZENE	8.408	880.263	829.45	7.923
Heneicosane	80.218	880.263	829.45	75.588
Pentacosane	162.233	880.263	829.45	152.868
HYDROGEN SULFIDE	16.000			16.000

Results: Case 1.2.3

COMPOUND NAME	MW	All 4 DNFs (modeled as 4 identical units in parallel) conc in	fe	conc out	Load to Control Device		TOTAL Load to Control Device		Load to Control Device Mass Conc.		Vol. Conc.
	(lb/lb-mol)	(ppmw)		(ppmw)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	ppmw	ppmw/MW	ppmv
BENZENE	78.11	3.43E+00	0.03787	3.30E+00	4.66E-02	0.369	0.047	0.369	1,215.72	15.56	478.55
CYCLOHEXANE	84.2	2.31E-01	0.64342	8.24E-02	5.33E-02	0.423	0.053	0.423	1,393.05	16.54	508.70
HEPTANE(-n)	100.02	6.31E+00	8.78E-08	6.31E+00	1.99E-07	0.000	0.000	0.000	0.01	0.00	0.00
HEXANE(-n)	86.2	7.38E-01	0.34878	4.81E-01	9.24E-02	0.733	0.092	0.733	2,412.64	27.99	860.58
METHYLCYCLOHEXANE	92.2	1.19E+01	4.25E-06	1.19E+01	1.81E-05	0.000	0.000	0.000	0.47	0.01	0.16
OCTANE	114.3	1.75E+01	2.42E-08	1.75E+01	1.52E-07	0.000	0.000	0.000	0.00	0.00	0.00
PENTANE	72.15	1.84E+00	0.90904	1.67E-01	6.00E-01	4.758	0.600	4.758	15,669.90	217.18	6,677.80
1-PENTENE	70.14	2.14E+00	0.9152	1.81E-01	7.02E-01	5.569	0.702	5.569	18,341.61	261.50	8,040.36
TOLUENE	92.4	2.02E+01	0.0348	1.95E+01	2.52E-01	1.997	0.252	1.997	6,578.74	71.20	2,189.15
TRIMETHYLPENTANE 2,2,4	114.22	2.23E+00	1.65E-06	2.23E+00	1.32E-06	0.000	0.000	0.000	0.03	0.00	0.01
ISOPENTANE	72.15	3.89E+00	0.92809	2.80E-01	1.30E+00	10.277	1.296	10.277	33,846.97	469.12	14,424.05
2 METHYLHEXANE C7H16	100.2	7.75E-01	0.99929	5.50E-04	2.78E-01	2.204	0.278	2.204	7,260.38	72.46	2,227.90
2-METHYL PENTANE C6H14	86.17	2.48E+00	0.62015	9.41E-01	5.52E-01	4.373	0.552	4.373	14,403.25	167.15	5,139.35
3 METHYLHEXANE C7H16	100.2	9.49E-01	0.71124	2.74E-01	2.42E-01	1.921	0.242	1.921	6,325.41	63.13	1,941.00
2,3 DIMETHYLPENTANE C7H16	100.19	2.81E-01	0.6062	1.11E-01	6.11E-02	0.485	0.061	0.485	1,596.76	15.94	490.03
2,2 DIMETHYLPENTANE	100.19	3.79E-01	0.8101	7.20E-02	1.10E-01	0.874	0.110	0.874	2,878.04	28.73	883.23
2,4 DIMETHYLPENTANE C7H16	100.19	9.00E-02	0.79604	1.84E-02	2.57E-02	0.204	0.026	0.204	671.46	6.70	206.06
3,3 DIMETHYLPENTANE C7H16	100.19	4.60E-02	0.61959	1.75E-02	1.02E-02	0.081	0.010	0.081	267.17	2.67	81.99
METHYLCYCLOPENTANE	84.17	9.73E-01	0.5801	4.09E-01	2.03E-01	1.607	0.203	1.607	5,291.20	62.86	1,932.86
CYCLOPENTANE	70.15	6.16E-01	1	0.00E+00	2.21E-01	1.753	0.221	1.753	5,774.36	82.31	2,530.93
cis 1,2 DIMETHYLCYCLOHEXANE	112.22	1.17E+01	1.49E-07	1.17E+01	6.24E-07	0.000	0.000	0.000	0.02	0.00	0.00
1,1,3 TRIMETHYLCYCLOPENTANE	112.21	8.30E+00	2.58E-07	8.30E+00	7.69E-07	0.000	0.000	0.000	0.02	0.00	0.00
1 HEXENE	84.17	9.08E-01	0.60398	3.60E-01	1.97E-01	1.561	0.197	1.561	5,139.73	61.06	1,877.53
3-ETHYLPENTANE	100.2	9.40E-02	0.64738	3.32E-02	2.18E-02	0.173	0.022	0.173	570.38	5.69	175.03
4 METHYLHEPTANE	114.23	4.46E+00	6.88E-08	4.46E+00	1.10E-07	0.000	0.000	0.000	0.00	0.00	0.00
3,3 DIMETHYLHEXANE	114.22	4.46E+00	1.17E-07	4.46E+00	1.87E-07	0.000	0.000	0.000	0.00	0.00	0.00
CUMENE (isopropylbenzene)	120.2	1.61E+00	0.02162	1.57E+00	1.25E-02	0.099	0.012	0.099	325.93	2.71	83.37
DIETHYLBENZENE P	134.22	2.38E+00	3.41E-08	2.38E+00	2.92E-08	0.000	0.000	0.000	0.00	0.00	0.00
ETHYLBENZENE	106.2	5.35E+00	0.02763	5.20E+00	5.30E-02	0.420	0.053	0.420	1,384.44	13.04	400.82
TRICOSANE N	324.63	7.61E+01	7.88E-15	7.61E+01	2.15E-13	0.000	0.000	0.000	0.00	0.00	0.00
TRIMETHYLBENZENE (1,3,5)	120.2	2.76E+00	4.70E-08	2.76E+00	4.65E-08	0.000	0.000	0.000	0.00	0.00	0.00
XYLENE(-m)	106.16	1.47E+01	0.02448	1.43E+01	1.29E-01	1.024	0.129	1.024	3,371.64	31.76	976.53
XYLENE(-o)	106.17	6.37E+00	0.0173	6.26E+00	3.95E-02	0.313	0.040	0.313	1,032.38	9.72	298.98
XYLENE(-p)	106.16	4.99E+00	0.0251	4.86E+00	4.49E-02	0.356	0.045	0.356	1,173.41	11.05	339.86
CYMENE,para	134.22	7.76E-01	0.00454	7.73E-01	1.27E-03	0.010	0.001	0.010	33.04	0.25	7.57
1 ETHYL 4 METHYLBENZENE (p-ethyltoluene)	120.2	7.69E-01	0.00638	7.64E-01	1.76E-03	0.014	0.002	0.014	45.99	0.38	11.76
DODECANE (C12 linear)	170	7.15E+01	1.97E-12	7.15E+01	5.05E-11	0.000	0.000	0.000	0.00	0.00	0.00
UNDECANE (C11 linear)	156.33	2.17E+00	1.30E-11	2.17E+00	1.01E-11	0.000	0.000	0.000	0.00	0.00	0.00
NONANE C9H20	128.27	7.39E+00	2.03E-09	7.39E+00	5.39E-09	0.000	0.000	0.000	0.00	0.00	0.00
PROPYLCYCLOPENTANE	112.23	1.74E+01	1.56E-07	1.74E+01	9.71E-07	0.000	0.000	0.000	0.03	0.00	0.01
PENTYLCYCLOPENTANE	140.29	5.52E+00	2.47E-09	5.52E+00	4.89E-09	0.000	0.000	0.000	0.00	0.00	0.00
sec BUTYLBENZENE	134.22	7.76E-01	0.00923	7.69E-01	2.57E-03	0.020	0.003	0.020	67.12	0.50	15.38
1,2,4,5 TETRAMETHYLBENZENE	134.24	1.61E+00	0.01673	1.58E+00	9.65E-03	0.076	0.010	0.076	251.92	1.88	57.70
PENTYLBENZENE	148.26	1.78E+00	0.0019	1.78E+00	1.22E-03	0.010	0.001	0.010	31.73	0.21	6.58
2,2,4,4 TETRAMETHYLPENTANE	128.24	1.28E+01	3.63E-07	1.28E+01	1.67E-06	0.000	0.000	0.000	0.04	0.00	0.01
4 METHYLNONANE	142.29	1.16E+01	9.41E-10	1.16E+01	3.92E-09	0.000	0.000	0.000	0.00	0.00	0.00
PENTADECANE (C15 linear)	212.45	7.33E+01	5.70E-14	7.33E+01	1.50E-12	0.000	0.000	0.000	0.00	0.00	0.00
HEPTADECANE (C17 linear)	240.51	7.42E+01	5.70E-14	7.42E+01	1.52E-12	0.000	0.000	0.000	0.00	0.00	0.00
NONADECANE (C19 linear)	268.57	7.50E+01	5.70E-14	7.50E+01	1.53E-12	0.000	0.000	0.000	0.00	0.00	0.00
1,2,4-TRIMETHYLBENZENE	120.21	7.92E+00	0.00032	7.92E+00	9.01E-04	0.007	0.001	0.007	23.53	0.20	6.02
Heneicosane	296.574	7.56E+01	8.66E-15	7.56E+01	2.35E-13	0.000	0.000	0.000	0.00	0.00	0.00
Pentacosane	352.68	1.53E+02	7.22E-15	1.53E+02	3.96E-13	0.000	0.000	0.000	0.00	0.00	0.00
HYDROGEN SULFIDE	34.1	1.60E+01	0.00417	1.59E+01	2.40E-02	0.190	0.024	0.190	625.75	18.35	564.22
Nitrogen Purge	28					262		261.720	861,995.70	30,785.56	946,565.92
Total rate for all organic compounds (all 4 DNFs)					5.26	**41.71**	5.260	**41.71**	137,378.55	1,719.51	52,869.86
Total rate for H2S (all 4 DNFs)					2.40E-02	**0.19**		**0.19**	625.75	18.35	564.22
Total rate for All Compounds including Purge (all 4 DNFs)						**303.62**		**303.62**	1,000,000	32,523.42	1,000,000

Appendix C. Lakefront Upgrades Project
TK-5050 Baseline Emissions
WATER9 Input Data

API Water Flow Rate	208.54	GPM
API Water Flow Rate	13.16	l/s
API Water Flow Rate	27.94	ft^3/min
Density of Water	62.40	lb/ft3
API Water Flow Rate	1,743.71	lb/min
API Water Flow Rate	2,510,941.82	lb/day
Oil Flow Rate (Based on Composition)	31.78	bbl/day
Oil Flow Rate	178.42	ft3/day
Density of oil	48.10	lb/ft3
Oil Flow Rate	8,581.89	lb/day
Oil in composite wastewater	3417.80	ppmw
Oil in composite wastewater	0.3418	%
Temperature	78.03	°F
	25.57	°C
Wind Speed	9.88	mph
pH	8.2	

Compound in Water9	Conc. in wastewater (ppmw) (Based on outlet concentration from API) *Input to Water9*	Compound in Water9	Conc. in wastewater (ppmw) (Based on outlet concentration from API) *Input to Water9*
BENZENE	11.946	DIETHYLBENZENE P	8.687
CYCLOHEXANE	0.762	ETHYLBENZENE	19.219
HEPTANE(-n)	22.402	TRICOSANE N	295.063
HEXANE(-n)	2.509	TRIMETHYLBENZENE (1,3,5)	9.976
METHYLCYCLOHEXANE	39.331	XYLENE(-m)	52.936
OCTANE	61.218	XYLENE(-o)	22.662
PENTANE	6.056	XYLENE(-p)	17.859
1-PENTENE	6.706	CYMENE,para	2.826
TOLUENE	71.595	1 ETHYL 4 METHYLBENZENE (p-ethyltoluene)	2.792
TRIMETHYLPENTANE 2,2,4	7.424	DODECANE (C12 linear)	262.210
ISOPENTANE	12.779	UNDECANE (C11 linear)	7.909
2 METHYLHEXANE C7H16	2.470	NONANE C9H20	25.995
2-METHYL PENTANE C6H14	8.112	PROPYLCYCLOPENTANE	59.661
3 METHYLHEXANE C7H16	3.134	PENTYLCYCLOPENTANE	19.710
2,3 DIMETHYLPENTANE C7H16	0.933	sec BUTYLBENZENE	2.800
2,2 DIMETHYLPENTANE	1.246	1,2,4,5 TETRAMETHYLBENZENE	5.783
2,4 DIMETHYLPENTANE C7H16	0.298	PENTYLBENZENE	6.457
3,3 DIMETHYLPENTANE C7H16	0.154	2,2,4,4 TETRAMETHYLPENTANE	42.345
METHYLCYCLOPENTANE	3.180	4 METHYLNONANE	41.402
CYCLOPENTANE	1.928	PENTADECANE (C15 linear)	276.388
cis 1,2 DIMETHYLCYCLOHEXANE	40.845	HEPTADECANE (C17 linear)	285.669
1,1,3 TRIMETHYLCYCLOPENTANE	28.111	NONADECANE (C19 linear)	292.954
1 HEXENE	2.961	1,2,4-TRIMETHYLBENZENE	28.823
3-ETHYLPENTANE	0.310	Heneicosane	280.805
4 METHYLHEPTANE	15.171	Pentacosane	567.912
3,3 DIMETHYLHEXANE	15.071	HYDROGEN SULFIDE	0.024
CUMENE (isopropylbenzene)	5.829		

Results: Baseline T5050

COMPOUND NAME	MW	T5050 (modeled as open tank) conc in	fe	conc out	Total Load		Annual Load	Load Mass Conc.		Vol. Conc.
	(lb/lb-mol)	(ppmw)		(ppmw)	(g/s)	(lb/hr)	tons/yr	ppmw	ppmw/MW	ppmv
BENZENE	78.11	1.20E+01	0.09195	1.09E+01	1.45E-02	0.115	0.502	67,582.67	865.22	84,598.80
CYCLOHEXANE	84.2	7.62E-01	0.06576	7.12E-01	6.59E-04	0.005	0.023	3,081.88	36.60	3,578.82
HEPTANE(-n)	100.02	2.24E+01	0.00022	2.24E+01	6.50E-05	0.001	0.002	303.98	3.04	297.16
HEXANE(-n)	86.2	2.51E+00	0.00906	2.49E+00	2.99E-04	0.002	0.010	1,397.92	16.22	1,585.67
METHYLCYCLOHEXANE	92.2	3.93E+01	0.01434	3.88E+01	7.42E-03	0.059	0.258	34,684.03	376.18	36,781.89
OCTANE	114.3	6.12E+01	0.00005096	6.12E+01	4.11E-05	0.000	0.001	191.86	1.68	164.12
PENTANE	72.15	6.06E+00	0.06903	5.64E+00	5.50E-03	0.044	0.191	25,710.39	356.35	34,842.38
1-PENTENE	70.14	6.71E+00	0.32407	4.53E+00	2.86E-02	0.227	0.993	133,669.74	1,905.76	186,338.60
TOLUENE	92.4	7.16E+01	0.01735	7.04E+01	1.64E-02	0.130	0.568	76,416.09	827.01	80,862.72
TRIMETHYLPENTANE 2,2,4	114.22	7.42E+00	0.00417	7.39E+00	4.07E-04	0.003	0.014	1,904.09	16.67	1,629.98
ISOPENTANE	72.15	1.28E+01	0.12398	1.12E+01	2.09E-02	0.165	0.724	97,448.05	1,350.63	132,080.30
2 METHYLHEXANE C7H16	100.2	2.47E+00	0.01353	2.44E+00	4.40E-04	0.003	0.015	2,054.59	20.50	2,004.90
2-METHYL PENTANE C6H14	86.17	8.11E+00	0.0165	7.98E+00	1.76E-03	0.014	0.061	8,235.18	95.57	9,344.42
3 METHYLHEXANE C7H16	100.2	3.13E+00	0.00127	3.13E+00	5.23E-05	0.000	0.002	244.25	2.44	238.34
2,3 DIMETHYLPENTANE C7H16	100.19	9.33E-01	0.0017	9.31E-01	2.09E-05	0.000	0.001	97.54	0.97	95.19
2,2 DIMETHYLPENTANE	100.19	1.25E+00	0.00271	1.24E+00	4.45E-05	0.000	0.002	207.80	2.07	202.79
2,4 DIMETHYLPENTANE C7H16	100.19	2.98E-01	0.0017	2.98E-01	6.66E-06	0.000	0.000	31.15	0.31	30.40
3,3 DIMETHYLPENTANE C7H16	100.19	1.54E-01	0.00271	1.54E-01	5.50E-06	0.000	0.000	25.68	0.26	25.06
METHYLCYCLOPENTANE	84.17	3.18E+00	0.01826	3.12E+00	7.64E-04	0.006	0.027	3,571.69	42.43	4,149.08
CYCLOPENTANE	70.15	1.93E+00	0.42291	1.11E+00	1.07E-02	0.085	0.373	50,149.52	714.89	69,899.59
cis 1,2 DIMETHYLCYCLOHEXANE	112.22	4.09E+01	0.00031	4.08E+01	1.65E-04	0.001	0.006	773.04	6.89	673.55
1,1,3 TRIMETHYLCYCLOPENTANE	112.21	2.81E+01	0.00054	2.81E+01	2.01E-04	0.002	0.007	938.96	8.37	818.18
1 HEXENE	84.17	2.96E+00	0.03016	2.87E+00	1.18E-03	0.009	0.041	5,491.68	65.25	6,379.45
3-ETHYLPENTANE	100.2	3.10E-01	0.00138	3.10E-01	5.61E-06	0.000	0.000	26.23	0.26	25.59
4 METHYLHEPTANE	114.23	1.52E+01	0.00014	1.52E+01	2.77E-05	0.000	0.001	129.42	1.13	110.78
3,3 DIMETHYLHEXANE	114.22	1.51E+01	0.00024	1.51E+01	4.73E-05	0.000	0.002	220.93	1.93	189.12
CUMENE (isopropylbenzene)	120.2	5.83E+00	0.00039	5.83E+00	2.96E-05	0.000	0.001	138.25	1.15	112.46
DIETHYLBENZENE P	134.22	8.69E+00	0.00005348	8.69E+00	6.11E-06	0.000	0.000	28.58	0.21	20.82
ETHYLBENZENE	106.2	1.92E+01	0.00246	1.92E+01	6.22E-04	0.005	0.022	2,907.55	27.38	2,676.94
TRICOSANE N	324.63	2.95E+02	9.467E-12	2.95E+02	3.68E-11	0.000	0.000	0.00	0.00	0.00
TRIMETHYLBENZENE (1,3,5)	120.2	9.98E+00	0.00008484	9.98E+00	1.11E-05	0.000	0.000	52.07	0.43	42.35
XYLENE(-m)	106.16	5.29E+01	0.0017	5.29E+01	1.18E-03	0.009	0.041	5,529.07	52.08	5,092.45
XYLENE(-o)	106.17	2.27E+01	0.0019	2.26E+01	5.67E-04	0.004	0.020	2,650.03	24.96	2,440.53
XYLENE(-p)	106.16	1.79E+01	0.00224	1.78E+01	5.26E-04	0.004	0.018	2,457.47	23.15	2,263.40
CYMENE,para	134.22	2.83E+00	0.00004138	2.83E+00	1.54E-06	0.000	0.000	7.19	0.05	5.24
1 ETHYL 4 METHYLBENZENE (p-ethyltoluene)	120.2	2.79E+00	0.00021	2.79E+00	7.77E-06	0.000	0.000	36.32	0.30	29.54
DODECANE (C12 linear)	170	2.62E+02	2.142E-09	2.62E+02	7.39E-09	0.000	0.000	0.03	0.00	0.02
UNDECANE (C11 linear)	156.33	7.91E+00	1.639E-08	7.91E+00	1.71E-09	0.000	0.000	0.01	0.00	0.00
NONANE C9H20	128.27	2.60E+01	3.565E-06	2.60E+01	1.22E-06	0.000	0.000	5.70	0.04	4.35
PROPYLCYCLOPENTANE	112.23	5.97E+01	0.00032	5.96E+01	2.53E-04	0.002	0.009	1,181.53	10.53	1,029.37
PENTYLCYCLOPENTANE	140.29	1.97E+01	3.905E-06	1.97E+01	1.01E-06	0.000	0.000	4.73	0.03	3.30
sec BUTYLBENZENE	134.22	2.80E+00	0.00005311	2.80E+00	1.96E-06	0.000	0.000	9.15	0.07	6.66
1,2,4,5 TETRAMETHYLBENZENE	134.24	5.78E+00	0.6755	1.88E+00	5.14E-02	0.408	1.786	240,278.37	1,789.92	175,012.16
PENTYLBENZENE	148.26	6.46E+00	0.57211	2.76E+00	4.86E-02	0.385	1.688	227,191.82	1,532.39	149,831.87
2,2,4,4 TETRAMETHYLPENTANE	128.24	4.24E+01	0.00071	4.23E+01	3.95E-04	0.003	0.014	1,846.14	14.40	1,407.59
4 METHYLNONANE	142.29	4.14E+01	1.472E-06	4.14E+01	8.02E-07	0.000	0.000	3.75	0.03	2.58
PENTADECANE (C15 linear)	212.45	2.76E+02	1.637E-12	2.76E+02	5.95E-12	0.000	0.000	0.00	0.00	0.00
HEPTADECANE (C17 linear)	240.51	2.86E+02	2.187E-13	2.86E+02	8.22E-13	0.000	0.000	0.00	0.00	0.00
NONADECANE (C19 linear)	268.57	2.93E+02	1.881E-15	2.93E+02	7.25E-15	0.000	0.000	0.00	0.00	0.00
1,2,4-TRIMETHYLBENZENE	120.21	2.88E+01	4.504E-06	2.88E+01	1.71E-06	0.000	0.000	7.98	0.07	6.49
Heneicosane	296.574	2.81E+02	1.422E-12	2.81E+02	5.26E-12	0.000	0.000	0.00	0.00	0.00
Pentacosane	352.68	5.68E+02	1.202E-12	5.68E+02	8.98E-12	0.000	0.000	0.00	0.00	0.00
HYDROGEN SULFIDE	34.1	2.40E-02	0.72892	6.51E-03	2.30E-04	0.002	0.008	1,075.90	31.55	3,084.99
Nitrogen Purge	28							0.00	0.00	0.00
Total rate for all organic compounds					0.21	1.69	7.42	998,924.10	10,195.83	996,915.01
Total rate for H2S						0.00	0.01	1,075.90	31.55	3,084.99
Total rate for All Compounds including Purge						1.70	7.43	1,000,000	10,227.38	1,000,000

NOTES:

1. Default wind speed was changed based on wind speeds provided by BP. This accounts for the purge effect.

Appendix C. Lakefront Upgrades Project
TK-5050 Potential Emissions
TANKS 4.0.9d Input Data

Diameter of Tank	220	feet
Diameter of Tank	67.056	m
Height of Tank	40	feet
Height of Tank	12.192	m

Potential to Emit Basis:

The level in Tank 5050 will go up or down 20 ft on a daily basis. This is a worst case situation, providing a conservative estimate. The number of turnovers per year is then defined as 183. Knowing the volume of the tank that is changing, the annual throughput will be calculated (which will be a much higher throughput than currently goes to T5050).

Level change	20	feet
Turnovers	183	per year
Conversion to Gallons	7.48	gal/ft3
Operating Volume	760,265.42	ft3
	5,687,545.62	gal
	2.84	MGD
Annual Throughput	1,037,977,076.24	gal/yr

Emissions based on vapor pressure of "base oil"

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	T-303
City:	Chicago
State:	Illinois
Company:	British Petroleum
Type of Tank:	Vertical Fixed Roof Tank
Description:	DNF float tank #1

Tank Dimensions

Shell Height (ft):		11.00
Diameter (ft):		14.00
Liquid Height (ft) :		7.00
Avg. Liquid Height (ft):		5.50
Volume (gallons):		8,060.17
Turnovers:		11,434.31
Net Throughput(gal/yr):		92,162,500.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		2.00
Slope (ft/ft) (Cone Roof)		0.29

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Chicago, Illinois (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-303 - Vertical Fixed Roof Tank
Chicago, Illinois

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	50.66	45.76	55.55	49.02	1.3000	1.3000	1.3000	50.0000			189.82	Option 1: VP50 = 1.3 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-303 - Vertical Fixed Roof Tank
Chicago, Illinois

Annual Emission Calcaulations	
Standing Losses (lb):	97.5356
Vapor Space Volume (cu ft):	949.2846
Vapor Density (lb/cu ft):	0.0119
Vapor Space Expansion Factor:	0.0338
Vented Vapor Saturation Factor:	0.7018
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	949.2846
Tank Diameter (ft):	14.0000
Vapor Space Outage (ft):	6.1667
Tank Shell Height (ft):	11.0000
Average Liquid Height (ft):	5.5000
Roof Outage (ft):	0.6667
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.6667
Roof Height (ft):	2.0000
Roof Slope (ft/ft):	0.2900
Shell Radius (ft):	7.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0119
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg. R):	510.3272
Daily Average Ambient Temp. (deg. F):	49.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	508.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,225.5876
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0338
Daily Vapor Temperature Range (deg. R):	19.5858
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg R):	510.3272
Daily Min. Liquid Surface Temp. (deg R):	505.4307
Daily Max. Liquid Surface Temp. (deg R):	515.2236
Daily Ambient Temp. Range (deg. R):	19.1000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7018
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.3000

Vapor Space Outage (ft):	6.1667
Working Losses (lb):	24,146.2956
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Annual Net Throughput (gal/yr.):	92,162,500.0000
Annual Turnovers:	11,434.3122
Turnover Factor:	0.1693
Maximum Liquid Volume (gal):	8,060.1700
Maximum Liquid Height (ft):	7.0000
Tank Diameter (ft):	14.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	24,243.8312

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-303 - Vertical Fixed Roof Tank
Chicago, Illinois

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BP Normal Oil	24,146.30	97.54	24,243.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	T-304
City:	Chicago
State:	Illinois
Company:	British Petroleum
Type of Tank:	Vertical Fixed Roof Tank
Description:	DNF float tank #2

Tank Dimensions

Shell Height (ft):	11.00
Diameter (ft):	14.00
Liquid Height (ft) :	7.00
Avg. Liquid Height (ft):	5.50
Volume (gallons):	8,060.17
Turnovers:	11,434.31
Net Throughput(gal/yr):	92,162,500.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	2.00
Slope (ft/ft) (Cone Roof)	0.29

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Chicago, Illinois (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-304 - Vertical Fixed Roof Tank
Chicago, Illinois

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	50.66	45.76	55.55	49.02	1.3000	1.3000	1.3000	50.0000			189.82	Option 1: VP50 = 1.3 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-304 - Vertical Fixed Roof Tank
Chicago, Illinois

Annual Emission Calcaulations

Standing Losses (lb):	97.5356
Vapor Space Volume (cu ft):	949.2846
Vapor Density (lb/cu ft):	0.0119
Vapor Space Expansion Factor:	0.0338
Vented Vapor Saturation Factor:	0.7018
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	949.2846
Tank Diameter (ft):	14.0000
Vapor Space Outage (ft):	6.1667
Tank Shell Height (ft):	11.0000
Average Liquid Height (ft):	5.5000
Roof Outage (ft):	0.6667
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.6667
Roof Height (ft):	2.0000
Roof Slope (ft/ft):	0.2900
Shell Radius (ft):	7.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0119
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg. R):	510.3272
Daily Average Ambient Temp. (deg. F):	49.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	508.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,225.5876
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0338
Daily Vapor Temperature Range (deg. R):	19.5858
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg R):	510.3272
Daily Min. Liquid Surface Temp. (deg R):	505.4307
Daily Max. Liquid Surface Temp. (deg R):	515.2236
Daily Ambient Temp. Range (deg. R):	19.1000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7018
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.3000

Vapor Space Outage (ft):	6.1667
Working Losses (lb):	24,146.2956
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Annual Net Throughput (gal/yr.):	92,162,500.0000
Annual Turnovers:	11,434.3122
Turnover Factor:	0.1693
Maximum Liquid Volume (gal):	8,060.1700
Maximum Liquid Height (ft):	7.0000
Tank Diameter (ft):	14.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	24,243.8312

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-304 - Vertical Fixed Roof Tank
Chicago, Illinois

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BP Normal Oil	24,146.30	97.54	24,243.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	T5050 (Future) 1
City:	Whiting (Future)
State:	Indiana
Company:	British Petroleum
Type of Tank:	External Floating Roof Tank
Description:	Tank 5050 Future Potential based on 183 turnovers/year

Tank Dimensions

Diameter (ft):	220.00
Volume (gallons):	5,687,545.62
Turnovers:	183.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Liquid-mounted
Secondary Seal	Weather Shield

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Whiting (Future), Indiana (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T5050 (Future) 1 - External Floating Roof Tank
Whiting (Future), Indiana

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	106.28	104.82	107.74	104.64	1.3000	N/A	N/A	50.0000			189.82	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T5050 (Future) 1 - External Floating Roof Tank
Whiting (Future), Indiana

Annual Emission Calcaulations

Rim Seal Losses (lb):	1,717.8599
Seal Factor A (lb-mole/ft-yr):	0.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Average Wind Speed (mph):	11.9600
Seal-related Wind Speed Exponent:	1.2000
Value of Vapor Pressure Function:	0.0237
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Tank Diameter (ft):	220.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,024.5142
Annual Net Throughput (gal/yr.):	1,040,820,918.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.4300
Tank Diameter (ft):	220.0000
Roof Fitting Losses (lb):	1.8947
Value of Vapor Pressure Function:	0.0237
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	1.6000
Average Wind Speed (mph):	11.9600
Total Losses (lb):	2,744.2688

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	1.8947

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T5050 (Future) 1 - External Floating Roof Tank
Whiting (Future), Indiana

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
BP Normal Oil	1,717.86	1,024.51	1.89	0.00	2,744.27

Appendix C. Lakefront Upgrades Project
Solids Collector System Potential Emissions
TANKS 4.0.9d Input Data

Fixed Cover Dimensions (for One Box and One Cover):

Width of One Cover	9	ft
Length of One Box	49	ft
Depth of One Box	15	ft
Maximum Liquid Height	15	ft
Box Area	441	ft
Diameter of tank to be modeled in TANKS	23.696	ft

Treat the box perimeter as a tank perimeter

Level change	5	inches
Daily Frequency	10	-
Annual Frequency	3650	per year
Conversion to Gallons	7.48	gal/ft3
Working Volume	49,497.4	gallons
Volume per Turnover	1,375	gallons
Calculated Throughput	5,017,413	gal/yr
Calculated Turnovers	101.37	per year

Floating Cover Dimensions (for One Box and One Cover):

Width of One Cover	20	ft
Length of One Box	35	ft
Depth of One Box	11.5	ft
Maximum Liquid Height	11.5	ft
Box Area	700	ft
Diameter of tank to be modeled in TANKS	29.85	ft

Level change	5	inches
Daily Frequency	10	-
Annual Frequency	3650	per year
Conversion to Gallons	7.48	gal/ft3
Tank Volume	60,222	gallons
Volume per Turnover	2,182	gallons
Calculated Throughput	7,964,148	gal/yr
Calculated Turnovers	132.25	per year

The basis of the calculated throughput is that the level in each box of the solids collector system will change 5 inches, 10 times on a daily basis.
Emissions based on vapor pressure of "base oil"

Vacuum Box Emissions (from Maintenance on Strainers):

Width of One Cover	7.0	ft
Length of One Roll-Off Box	20.77	ft
Depth of One Roll-Off Box	6.67	ft
Maximum Liquid Height	4.833	ft
Box Area	145	ft
Diameter of tank to be modeled in TANKS	13.61	ft

Assume two (2) roll-off boxes are filled weekly.

Annual Frequency	104	per year
Conversion to Gallons	7.48	gal/ft3
Working Volume	5,257	gallons
Throughput	546,754	gal/yr

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	API Future Variable Level
City:	Whiting (Future)
State:	Indiana
Company:	British Petroleum
Type of Tank:	External Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	29.85
Volume (gallons):	60,222.05
Turnovers:	132.25

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Liquid-mounted
Secondary Seal	Weather Shield

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Whiting (Future), Indiana (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

API Future Variable Level - External Floating Roof Tank
Whiting (Future), Indiana

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	106.28	104.82	107.74	104.64	1.3000	N/A	N/A	50.0000			189.82	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

API Future Variable Level - External Floating Roof Tank
Whiting (Future), Indiana

Annual Emission Calcaulations

Rim Seal Losses (lb):	233.0824
Seal Factor A (lb-mole/ft-yr):	0.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Average Wind Speed (mph):	11.9600
Seal-related Wind Speed Exponent:	1.2000
Value of Vapor Pressure Function:	0.0237
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Tank Diameter (ft):	29.8500
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	57.7776
Annual Net Throughput (gal/yr.):	7,964,147.9167
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.4300
Tank Diameter (ft):	29.8500
Roof Fitting Losses (lb):	1.8947
Value of Vapor Pressure Function:	0.0237
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	1.6000
Average Wind Speed (mph):	11.9600
Total Losses (lb):	292.7547

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	1.8947

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

API Future Variable Level - External Floating Roof Tank
Whiting (Future), Indiana

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
BP Normal Oil	233.08	57.78	1.89	0.00	292.75

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	API Future Fixed Variable
City:	Whiting (Future)
State:	Indiana
Company:	British Petroleum
Type of Tank:	Vertical Fixed Roof Tank
Description:	API Future Potential Fixed Cover Variable Level

Tank Dimensions

Shell Height (ft):		15.00
Diameter (ft):		23.70
Liquid Height (ft) :		15.00
Avg. Liquid Height (ft):		15.00
Volume (gallons):		49,497.40
Turnovers:		101.37
Net Throughput(gal/yr):		5,017,413.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		0.10
Slope (ft/ft) (Cone Roof)		0.00

Breather Vent Settings

Vacuum Settings (psig):	-0.04
Pressure Settings (psig)	0.04

Meterological Data used in Emissions Calculations: Chicago, Illinois (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

API Future Fixed Variable - Vertical Fixed Roof Tank
Whiting (Future), Indiana

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	50.66	45.76	55.55	49.02	1.3000	1.3000	1.3000	50.0000			189.82	Option 1: VP50 = 1.3 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

API Future Fixed Variable - Vertical Fixed Roof Tank
Whiting (Future), Indiana

Annual Emission Calcaulations

Standing Losses (lb):	2.0889
Vapor Space Volume (cu ft):	14.6999
Vapor Density (lb/cu ft):	0.0119
Vapor Space Expansion Factor:	0.0329
Vented Vapor Saturation Factor:	0.9977
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	14.6999
Tank Diameter (ft):	23.6959
Vapor Space Outage (ft):	0.0333
Tank Shell Height (ft):	15.0000
Average Liquid Height (ft):	15.0000
Roof Outage (ft):	0.0333
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.0333
Roof Height (ft):	0.1000
Roof Slope (ft/ft):	0.0000
Shell Radius (ft):	11.8479
Vapor Density	
Vapor Density (lb/cu ft):	0.0119
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg. R):	510.3272
Daily Average Ambient Temp. (deg. F):	49.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	508.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,225.5876
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0329
Daily Vapor Temperature Range (deg. R):	19.5858
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0720
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg R):	510.3272
Daily Min. Liquid Surface Temp. (deg R):	505.4307
Daily Max. Liquid Surface Temp. (deg R):	515.2236
Daily Ambient Temp. Range (deg. R):	19.1000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9977
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.3000

Vapor Space Outage (ft):	0.0333
Working Losses (lb):	3,592.2672
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Annual Net Throughput (gal/yr.):	5,017,413.0000
Annual Turnovers:	101.3672
Turnover Factor:	0.4626
Maximum Liquid Volume (gal):	49,497.3953
Maximum Liquid Height (ft):	15.0000
Tank Diameter (ft):	23.6959
Working Loss Product Factor:	1.0000
Total Losses (lb):	3,594.3561

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

API Future Fixed Variable - Vertical Fixed Roof Tank
Whiting (Future), Indiana

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BP Normal Oil	3,592.27	2.09	3,594.36

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Solids Collector - Roll-Off Box
City:	Chicago
State:	Illinois
Company:	British Petroleum
Type of Tank:	Vertical Fixed Roof Tank
Description:	Temporary Vacuum Roll-Off Box - Associated with the pump discharge strainers in the Solids Collector

Tank Dimensions

Shell Height (ft):		6.67
Diameter (ft):		13.61
Liquid Height (ft) :		4.83
Avg. Liquid Height (ft):		4.83
Volume (gallons):		5,257.25
Turnovers:		104.00
Net Throughput(gal/yr):		546,753.66
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		2.00
Slope (ft/ft) (Cone Roof)		0.29

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Chicago, Illinois (Avg Atmospheric Pressure = 14.38 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Solids Collector - Roll-Off Box - Vertical Fixed Roof Tank
Chicago, Illinois

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
BP Normal Oil	All	50.66	45.76	55.55	49.02	1.3000	1.3000	1.3000	50.0000			189.82	Option 1: VP50 = 1.3 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Solids Collector - Roll-Off Box - Vertical Fixed Roof Tank
Chicago, Illinois

Annual Emission Calcaulations

Standing Losses (lb):	45.3915
Vapor Space Volume (cu ft):	363.4471
Vapor Density (lb/cu ft):	0.0119
Vapor Space Expansion Factor:	0.0338
Vented Vapor Saturation Factor:	0.8531
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	363.4471
Tank Diameter (ft):	13.6060
Vapor Space Outage (ft):	2.4997
Tank Shell Height (ft):	6.6667
Average Liquid Height (ft):	4.8336
Roof Outage (ft):	0.6667
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.6667
Roof Height (ft):	2.0000
Roof Slope (ft/ft):	0.2900
Shell Radius (ft):	6.8030
Vapor Density	
Vapor Density (lb/cu ft):	0.0119
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg. R):	510.3272
Daily Average Ambient Temp. (deg. F):	49.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	508.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,225.5876
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0338
Daily Vapor Temperature Range (deg. R):	19.5858
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3000
Daily Avg. Liquid Surface Temp. (deg R):	510.3272
Daily Min. Liquid Surface Temp. (deg R):	505.4307
Daily Max. Liquid Surface Temp. (deg R):	515.2236
Daily Ambient Temp. Range (deg. R):	19.1000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.8531
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.3000

Vapor Space Outage (ft):	2.4997
Working Losses (lb):	385.1142
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3000
Annual Net Throughput (gal/yr.):	546,753.6645
Annual Turnovers:	104.0000
Turnover Factor:	0.4551
Maximum Liquid Volume (gal):	5,257.2468
Maximum Liquid Height (ft):	4.8336
Tank Diameter (ft):	13.6060
Working Loss Product Factor:	1.0000
Total Losses (lb):	430.5057

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Solids Collector - Roll-Off Box - Vertical Fixed Roof Tank
Chicago, Illinois

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BP Normal Oil	385.11	45.39	430.51

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Natalie Grimmer
BP Products North America, Inc. – Whiting Business Unit
2815 Indianapolis Blvd.
Whiting, IN 46394

DATE: January 16, 2014

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Significant Source Modification to a Part 70 Operating Permit
089-33530-00453

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Nick Spencer, Whiting Business Unit Leader
Leanna Cheng, Trinity Consultants
Mitch Beekman, BP Products North American, Inc.
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 6/13/2013

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

January 16, 2014

TO: Whiting Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: **BP Products North America, Inc.–Whiting Business Unit**
Permit Number: **089-33530-00453**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 6/13/2013

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: January 16, 2014

RE: BP Products North America, Inc – Whiting Business Unit / 089-33530-00453

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 6/13/2013

Mail Code 61-53

IDEM Staff	VHAUN 1/16/2014 BP Products North America Inc - Whiting Business Unit 089-33530-00453 FINAL			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Natalie Grimmer BP Products North America Inc - Whiting Business U 2815 Indianapolis Blvd Whiting IN 46394 (Source CAATS) Confirmed Delivery									
2		Nick Spencer Whiting Business Unit Leader BP Products North America Inc - Whiting Business U 2815 Indianapolis Blvd Whiting IN 46394 *(RO CAATS)*									
3		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 *(Local Official)*									
4		Gary - Hobart Water Corp 650 Madison St, P.O. Box M486 Gary IN 46401-0486 *(Affected Party)*									
5		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 *(Health Department)*									
6		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 *(Affected Party)*									
7		Hammond City Council and Mayors Office 5925 Calumet Avenue Hammond IN 46320 *(Local Official)*									
8		Shawn Sobocinski 3229 E. Atlanta Court Portage IN 46368 *(Affected Party)*									
9		Mr. Tim Maloney Hoosier Environmental Council 3951 N. Meridian Suite 100 Indianapolis IN 46208 *(Affected Party)*									
10		Whiting City Council and Mayors Office 1143 119th St Whiting IN 46394 *(Local Official)*									
11		Mark Coleman 107 Diana Road Portage IN 46368 *(Affected Party)*									
12		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 *(Affected Party)*									
13		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)									
14		Whiting Public Library 1735 Oliver St Whiting IN 46394-1794 *(Library)*									
15		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 *(Local Official)*									

Total number of pieces Listed by Sender 14	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

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1		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 (Affected Party)									
2		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 *(Affected Party)*									
3		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 *(Affected Party)*									
4		Joe Carroll Bloomberg News 111 S. Wacker Suite 4950 Chicago IL 60606 *(Affected Party)*									
5		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 *(Affected Party)*									
6		Rosemarie Cazeau Illinois Attorney General Office 69 W Washington St 18th floor Chicago IL 60602 *(Affected Party)*									
7		Faith Burgel Environmental Law and Policy Center 35 East Wacker Drive, Suite 1300 Chicago IL 60601 *(Affected Party)*									
8		Eliza Dolin Environmental Law and Policy Center 35 E Wacker Dr #300 Chicago IL 60601 *(Affected Party)*									
9		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 *(Affected Party)*									
10		Ann Alexander Natural Resources Defense Council 2 North Riverside Plaza, Suite 2250 Chicago IL 60606 *(Affected Party)*									
11		Bessie Dent Calumet Project 200 Russell St., Ste. 304 Hammond IN 46320 *(Affected Party)*									
12		Mr. Thomas Frank 1616 E 142nd Street East Chicago IN 46312 *(Affected Party)*									
13		Tom Anderson Save the Dunes 444 Barker Rd Michigan City IN 46360 (Affected Party)									
14		Mr. Steve Kozel The Calumet Project 200 Russell St., Ste. 304 Hammond IN 46320 *(Affected Party)*									
15		Sierra Club, Inc. - Hoosier Chapter 1100 W. 42nd Street, Suite 140 Indianapolis IN 46208 *(Affected Party)*									

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1		Sparsh Khandeshi Environmental Integrity Project 1000 Vermont Ave NW, Suite 1100 Washington DC 20005 (Affected Party)									
2		Gary City Council 401 Broadway # 209 Gary IN 46402 *(Local Official)*									
3		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 *(Affected Party)*									
4		Kim Chrislip Genscape 1710 29th Street, Ste. 2044 Boulder CO 80301 *(Affected Party)*									
5		Bryan Bullock Counsel for Calumet Project 7863 Broadway, Suite 222 Merrillville IN 46410 *(Affected Party)*									
6		Tom Soulis 3646 Ridge Road Highland IN 46322 *(Affected Party)*									
7		Susan Eleuterio 3646 Ridge Road Highland IN 46322 *(Affected Party)*									
8		Jennifer Peterson Environmental Integrety Project 1920 L. Street NW, Suite 800 Washington DC 20036 *(Affected Party)*									
9		Mitch Beekman 11878 Topanga Canyon Frankfort IL 60423 *(Source – addl contact)*									
10		Kay Nelson 6100 Southport Road Portage IN 46368 *(Affected Party)*									
11		Ryan Dave 939 Cornwallis Munster IN 46321 *(Affected Party)*									
12		Matt Mikus 1710 Vale Park Rd Apt 302 Valparaiso IN 46383 *(Affected Party)*									
13		Edwin Bybel 2440 Scharge Avenue Whiting IN 46394 (Affected Party)									
14		Sparsh Khandeshi Environmental Integrity Project 1 Thomas Circle NW Suite 900 Washington DC 20005 *(Affected Party)*									
15		Ms. Leanna Cheng Trinity Consultants 1S600 Midwest Road, Suite 250 Oakbrook Terrace IL 60181 *(Consultant)*									

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