INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: November 20, 2006

RE: B P Products / 089-23177-00453

FROM: Nisha Sizemore
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 13-17-3-4 and 326 IAC 2, this approval is effective immediately, unless a petition for stay of effectiveness is filed and granted, 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 4-21.5-3-7 and IC 13-15-7-3 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, 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-MOD.dot 03/23/06

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Ms. Natalie Grimmer
BP Products North America, Inc., Whiting Business Unit
P.O. Box 710
Whiting, Indiana 46394

November 20, 2006

Re: Minor Source Modification No: 089-23177-00453 to
Part 70 Operating Permit No.: 089-6741-00453
(not issued yet)

Dear Ms. Grimmer:

BP Products North America, Inc., Whiting Business Unit applied for a Part 70 operating permit on September 30, 1996 for a refinery and market terminal. An application to modify the source was received on June 2, 2006. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

The Permittee requested the following modification at their source:

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 controlled using an electric catalytic oxidizer, identified as F-1. The facility will be installed in 2006 and consists of the following emission units:

(a) One (1) mix tank with a maximum capacity of 18,000 gallons and emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the mix tank is an affected facility subject to the requirements for treatment processes.

(b) One (1) centrifuge with emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the centrifuge is an affected facility subject to the requirements for treatment processes.

(c) One (1) diesel-fired boiler, identified as C-1, with a maximum heat input capacity of 5.02 MMBtu per hour. Emissions are exhausted at stack C-1-01. There is no control device for this emission unit.

(d) One (1) diesel-fired air compressor, identified as J-2, with a maximum heat input capacity of 0.90 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.

(e) One (1) diesel-fired process pump, identified as J-1, with a maximum heat input capacity of 0.71 MMBtu per hour. This pump is a 100 hp reciprocating internal combustion engine. Emissions are exhausted through vent J-1. There are no control devices for this emission unit.

(f) Three (3) portable, carbon steel, rectangular storage tanks, including:

(1) One (1) Reclaimed Oil Tank, identified as TK-1, with a maximum storage capacity of 21,000 gallons and used to store reclaimed sludge and cutter stock. Emissions are controlled by the catalytic oxidizer F-1.

(2) One (1) Cutter Stock Tank, identified as TK-2, with a maximum storage capacity of 21,000 gallons and used to store Cutter Stock. Emissions are controlled by the catalytic oxidizer F-1.

(3) One (1) Concentrate Tank, identified as TK-3, with a maximum storage capacity of 18,000 gallons and used to store cutter stock and tank sludge mix. Emissions are controlled by the catalytic oxidizer F-1.

Under 40 CFR 61, Subpart FF, tanks TK-1, TK-2, and TK-3 are affected facilities required to comply with the requirements for tanks.

(g) One (1) electric catalytic oxidizer, identified as F-1, with a maximum VOC input of 2200 ppmv and 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. Under 40 CFR 61, Subpart FF, the catalytic oxidizer and its associated piping are affected facilities required to comply with the requirements for closed vent systems and control devices.

(h) 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 proposed Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant ot 326 IAC 2-7-10.5(1)(3). The source may begin operation upon issuance of the source modification approval.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Amanda Baynham, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7910 to speak directly to Ms. Baynham. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

Attachments

ERG/AAB

cc: File - Lake County
Lake County Health Department
Northwest Regional Office
Hammond Department of Environmental Management
Air Compliance Section Inspector – Ramesh Tejuga
Compliance Data Section
Administrative and Development
Technical Support and Modeling

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Indianapolis, Indiana 46204-2251
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(800) 451-6027
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PART 70 MINOR SOURCE MODIFICATION
OFFICE OF AIR QUALITY

BP Products North America, Inc., Whiting Business Unit
2815 Indianapolis Boulevard
Whiting, Indiana 46394-0710

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval 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.

Minor Source Modification: 089-23177-00453	
Original signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: November 20, 2006

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.3 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 approval 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(15)] [326 IAC 2-7-1(22)]

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

Responsible Official:	Whiting Business Unit Leader
Source Address:	2815 Indianapolis Blvd, Whiting, Indiana 46394
Mailing Address:	P.O. Box 710, Whiting, Indiana 46394
General Source Phone Number:	219-473-3179
SIC Code:	2911
County Location:	Lake
Source Location Status:	Nonattainment for the $PM_{2.5}$ and 8-hour ozone standards 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 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

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 controlled using an electric catalytic oxidizer, identified as F-1. The facility will be installed in 2006 and consists of the following emission units:

(a) One (1) mix tank with a maximum capacity of 18,000 gallons and emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the mix tank is an affected facility subject to the requirements for treatment processes.

(b) One (1) centrifuge with emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the centrifuge is an affected facility subject to the requirements for treatment processes.

(c) One (1) diesel-fired boiler, identified as C-1, with a maximum heat input capacity of 5.02 MMBtu per hour. Emissions are exhausted at stack C-1-01. There is no control device for this emission unit.

(d) One (1) diesel-fired air compressor, identified as J-2, with a maximum heat input capacity of 0.90 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.

(e) One (1) diesel-fired process pump, identified as J-1, with a maximum heat input capacity of 0.71 MMBtu per hour. This pump is a 100 hp reciprocating internal combustion engine. Emissions are exhausted through vent J-1. There are no control devices for this emission unit.

(f) Three (3) portable, carbon steel, rectangular storage tanks, including:

(1) One (1) Reclaimed Oil Tank, identified as TK-1, with a maximum storage capacity of 21,000 gallons and used to store reclaimed sludge and cutter stock. Emissions are controlled by the catalytic oxidizer F-1.

(2) One (1) Cutter Stock Tank, identified as TK-2, with a maximum storage capacity of 21,000 gallons and used to store Cutter Stock. Emissions are controlled by the catalytic oxidizer F-1.

(3) One (1) Concentrate Tank, identified as TK-3, with a maximum storage capacity of 18,000 gallons and used to store cutter stock and tank sludge mix. Emissions are controlled by the catalytic oxidizer F-1.

Under 40 CFR 61, Subpart FF, tanks TK-1, TK-2, and TK-3 are affected facilities required to comply with the requirements for tanks.

(g) One (1) electric catalytic oxidizer, identified as F-1, with a maximum VOC input of 2200 ppmv and 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. Under 40 CFR 61, Subpart FF, the catalytic oxidizer and its associated piping are affected facilities required to comply with the requirements for closed vent systems and control devices.

(h) 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.

A.3 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 approval 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 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), 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.

B.4 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60, Subpart J, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Actual start-up date (within 15 days after such date); and

(c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46204-2251

The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

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

(a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, 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(34).

B.6 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, 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 Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) 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 or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) 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.7 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 approval;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and 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;

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

Northwest Regional Office
Telephone Number: 1-888-209-8892 or (219) 757-0265
Facsimile Number: (219) 757-0267

(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 Branch, Office of Air Quality
100 North Senate Avenue
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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 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)(9) 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.8 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.9 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 GENERAL 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 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this approval:

(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.

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

C.2 Performance Testing [326 IAC 3-6]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.3 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.4 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.5 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.

(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 continuous emission monitor other than an opacity monitor is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, a calibrated backup CEMS shall be brought online within four (4) hours of shutdown of the primary CEMS, and shall be operated until such time as the primary CEMS is back in operation.

(d) Nothing in this approval shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 40 CFR 60, Subpart J.

C.6 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this approval shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other methods as specified in this approval.

C.7 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 have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale.

(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.

C.8 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) Upon detecting an excursion or exceedance, the Permittee shall 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 emissions.

(b) 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). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned 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 within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(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;

(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 maintain the following records:

(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.

C.9 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 approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.10 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. 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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

(c) If there is a reasonable possibility that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-3(ll) at an existing emissions unit, other than projects at a Clean Unit, which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-3(mm), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll) 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(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(iii); and

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

(2) 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

(3) 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.11 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) 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.

(f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll) 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(xx) and/or 326 IAC 2-3-1(qq), 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).

(g) The report for project at an existing emissions unit shall be submitted within 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 (c)(2) and (3) 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 deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

(h) 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.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

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 controlled using an electric catalytic oxidizer, identified as F-1. The facility will be installed in 2006 and consists of the following emission units:

(a) One (1) mix tank with a maximum capacity of 18,000 gallons and emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the mix tank is an affected facility subject to the requirements for treatment processes.

(b) One (1) centrifuge with emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the centrifuge is an affected facility subject to the requirements for treatment processes.

(c) One (1) diesel-fired boiler, identified as C-1, with a maximum heat input capacity of 5.02 MMBtu per hour. Emissions are exhausted at stack C-1-01. There is no control device for this emission unit.

(d) One (1) diesel-fired air compressor, identified as J-2, with a maximum heat input capacity of 0.90 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.

(e) One (1) diesel-fired process pump, identified as J-1, with a maximum heat input capacity of 0.71 MMBtu per hour. This pump is a 100 hp reciprocating internal combustion engine. Emissions are exhausted through vent J-1. There are no control devices for this emission unit.

(f) Three (3) portable, carbon steel, rectangular storage tanks, including:

(1) One (1) Reclaimed Oil Tank, identified as TK-1, with a maximum storage capacity of 21,000 gallons and used to store reclaimed sludge and cutter stock. Emissions are controlled by the catalytic oxidizer F-1.

(2) One (1) Cutter Stock Tank, identified as TK-2, with a maximum storage capacity of 21,000 gallons and used to store Cutter Stock. Emissions are controlled by the catalytic oxidizer F-1.

(3) One (1) Concentrate Tank, identified as TK-3, with a maximum storage capacity of 18,000 gallons and used to store cutter stock and tank sludge mix. Emissions are controlled by the catalytic oxidizer F-1.

Under 40 CFR 61, Subpart FF, tanks TK-1, TK-2, and TK-3 are affected facilities required to comply with the requirements for tanks.

(g) One (1) electric catalytic oxidizer, identified as F-1, with a maximum VOC input of 2200 ppmv and 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. Under 40 CFR 61, Subpart FF, the catalytic oxidizer and its associated piping are affected facilities required to comply with the requirements for closed vent systems and control devices.

(h) 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.1.1 Volatile Organic Compounds (VOC) Limits [326 IAC 2-3][326 IAC 2-2] [326 IAC 8-1-6]

(a) The Tank Cleaning Facility shall be limited to 2,513 hours of operation per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Fugitive VOC emissions shall be controlled in accordance with the Leak Detection and Repair (LDAR) Plan submitted by the Permittee and included as Appendix A.

Compliance with paragraphs (a) and (b) renders the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable to the installation of the Tank Cleaning Facility. Compliance with paragraph (a) renders the requirements of 326 IAC 8-1-6 not applicable to the Centrifuge and Mix Tank.

D.1.2 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 engine (J-1) and the compressor engine (J-2) shall be each limited to 0.03 grains per dry standard cubic foot.

D.1.3 Fuel Gas Hydrogen Sulfide (H_2S) [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.1 for the electric catalytic oxidizer F-1.

D.1.4 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, valves, and connectors according to the Leak Detection and Repair (LDAR) Plan submitted by the Permittee and included as Appendix A. The Permittee shall update the LDAR Plan as necessary and shall submit a copy of the revised LDAR Plan to IDEM OAQ for approval. The revised plan will be effective immediately. 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 plan be revised.

(b) Pursuant to 40 CFR 63, Subpart CC, the Permittee shall comply with the requirements specified in Sections E.3 and E.4 for equipment leaks of HAP from pumps, valves and connectors located at the Tank Cleaning Facility.

D.1.5 Wastewater / Waste Streams [326 IAC 14][40 CFR 61, Subpart FF]

Pursuant to 40 CFR 60, Subpart FF, the Permittee shall comply with the requirements specified in Section E.2 for individual drain systems, treatment processes, tanks, and closed vent systems and control devices for all wastewater discharged from the Tank Cleaning Facility that is subject to the requirements in 40 CFR 61, Subpart FF.

D.1.6 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 storage tanks TK-1, TK-2, and TK-3:

(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.

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

D.1.7 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 and included as Appendix A. If the Permittee has submitted a revised LDAR Plan to IDEM, OAQ that is not yet incorporated into this permit, the Permittee shall comply with the requirements in the revised LDAR Plan immediately.

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

D.1.8 Record Keeping Requirements

(a) To demonstrate compliance with Condition D.1.1(a), 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 compliance with Condition D.1.3, the Permittee shall maintain the records specified in Section E.1.

(c) Pursuant to 326 IAC 8-4-8 and to document compliance with Conditions D.1.1(b) and D.1.4(a), the Permittee shall comply with equipment leak record keeping requirements specified in the plan submitted by the Permittee and included as Appendix A.

(d) Pursuant to 40 CFR 63, Subpart CC and to document compliance with Condition D.1.4(b), the Permittee shall keep records as specified in Sections E.3 and E.4.

(e) Pursuant to 40 CFR 61, Subpart FF and to document compliance with Condition D.1.5, the Permittee shall keep records as specified in Section E.2.

D.1.9 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.1.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) Pursuant to 40 CFR 60, Subpart J and to document compliance with Condition D.1.3, the Permittee shall submit to IDEM, OAQ the reports specified in Section E.1.

(c) Pursuant to 326 IAC 8-4-8 and to document compliance with Conditions D.1.1(b) and D.1.4(a), the Permittee shall comply with equipment leak reporting requirements specified in the plan submitted by the Permittee and included as Appendix A.

(d) Pursuant to 40 CFR 63, Subpart CC and to document compliance with Condition D.1.4(b), the Permittee shall submit reports as specified in Sections E.3 and E.4.

(e) Pursuant to 40 CFR 61, Subpart FF and to document compliance with Condition D.1.5, the Permittee shall submit reports as specified in Section E.2.

SECTION E.1 40 CFR Part 60, Subpart J – Standards of Performance for Petroleum Refineries

Facility Description [326 IAC 2-7-5(15)]

(g) One (1) electric catalytic oxidizer, identified as F-1, with a maximum VOC input of 2200 ppmv and 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. Under 40 CFR 61, Subpart FF, the catalytic oxidizer and its associated piping are affected facilities required to comply with the requirements for closed vent systems and control devices.

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

Emission Limit

E.1.1 General Provisions Relating to NSPS [326 IAC 12] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the catalytic oxidizer F-1, except when otherwise specified in 40 CFR 60, Subpart J.

E.1.2 NSPS Subpart J Requirements [40 CFR Part 60, Subpart J] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart J, the Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart J, which are incorporated by reference as 326 IAC 12:

§ 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.

§ 60.101 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A.

(a) *Petroleum refinery* means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.

(b) *Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(c) *Process gas* means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this section.

(d) *Fuel gas* means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas also 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.

(e) *Process upset gas* means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.

(f) *Refinery process unit* means any segment of the petroleum refinery in which a specific processing operation is conducted.

(g) *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.

(h) *Coke burn-off* means the coke removed from the surface of the fluid catalytic cracking unit catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated by the formula specified in §60.106.

(i) *Claus sulfur recovery plant* means a process unit which recovers sulfur from hydrogen sulfide by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide.

(j) *Oxidation control system* means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to sulfur dioxide.

(k) *Reduction control system* means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to hydrogen sulfide.

(l) *Reduced sulfur compounds* means hydrogen sulfide (H_2S), carbonyl sulfide (COS) and carbon disulfide (CS_2).

(m) *Fluid catalytic cracking unit* means a refinery process unit in which petroleum derivatives are continuously charged; 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.

(n) *Fluid catalytic cracking unit catalyst regenerator* means one or more regenerators (multiple regenerators) which comprise that portion of the fluid catalytic cracking unit in which coke burn-off and catalyst or contact material regeneration occurs, and includes the regenerator combustion air blower(s).

(o) *Fresh feed* means any petroleum derivative feedstock stream charged directly into the riser or reactor of a fluid catalytic cracking unit except for petroleum derivatives recycled within the fluid catalytic cracking unit, fractionator, or gas recovery unit.

(p) *Contact material* means any substance formulated to remove metals, sulfur, nitrogen, or any other contaminant from petroleum derivatives.

(q) *Valid day* means a 24-hour period in which at least 18 valid hours of data are obtained. A “valid hour” is one in which at least 2 valid data points are obtained.

§ 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.

§ 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:

(3) For fuel gas combustion devices subject to §60.104(a)(1), an instrument for continuously monitoring and recording the concentration by volume (dry basis, zero percent excess air) of SO_2 emissions into the atmosphere (except where an H_2S monitor is installed under paragraph (a)(4) of this section). The monitor shall include an oxygen monitor for correcting the data for excess air.

(i) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen (O_2).

(ii) The SO_2 monitoring level equivalent to the H_2S standard under §60.104(a)(1) shall be 20 ppm (dry basis, zero percent excess air).

(iii) 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. Method 6 samples 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.

(iv) 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 S_2 emissions into the atmosphere from each of the combustion devices.

(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.

(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.* (i) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under §60.105(a)(3) exceeds 20 ppm (dry basis, zero percent excess air); or

(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).

§ 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.

(2) Where emissions are monitored by §60.105(a)(3), compliance with §60.105(a)(1) shall be determined using Method 6 or 6C and Method 3 or 3A. A 1-hour sample shall constitute a run. Method 6 samples shall be taken at a rate of approximately 2 liters/min. The ppm correction factor (Method 6) and the sampling location in paragraph (f)(1) of this section apply. 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.

§ 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.

§ 60.109 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) 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 which shall not be delegated to States:

(1) Section 60.105(a)(13)(iii),

(2) Section 60.106(i)(12).

E.1.3 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

Requirement	Rule Citation	Affected Facility	Deadline
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.2 40 CFR Part 61, Subpart FF – National Emission Standards for Benzene Waste Operations

Facility Description [326 IAC 2-7-5(15)]

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 controlled using an electric catalytic oxidizer, identified as F-1. The facility will be installed in 2006 and consists of the following emission units:

(a) One (1) mix tank with a maximum capacity of 18,000 gallons and emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the mix tank is an affected facility subject to the requirements for treatment processes.

(b) One (1) centrifuge with emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the centrifuge is an affected facility subject to the requirements for treatment processes.

(f) Three (3) portable, carbon steel, rectangular storage tanks, including:

(1) One (1) Reclaimed Oil Tank, identified as TK-1, with a maximum storage capacity of 21,000 gallons and used to store reclaimed sludge and cutter stock. Emissions are controlled by the catalytic oxidizer F-1.

(2) One (1) Cutter Stock Tank, identified as TK-2, with a maximum storage capacity of 21,000 gallons and used to store Cutter Stock. Emissions are controlled by the catalytic oxidizer F-1.

(3) One (1) Concentrate Tank, identified as TK-3, with a maximum storage capacity of 18,000 gallons and used to store cutter stock and tank sludge mix. Emissions are controlled by the catalytic oxidizer F-1.

Under 40 CFR 61, Subpart FF, tanks TK-1, TK-2, and TK-3 are affected facilities required to comply with the requirements for tanks.

(g) One (1) electric catalytic oxidizer, identified as F-1, with a maximum VOC input of 2200 ppmv and 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. Under 40 CFR 61, Subpart FF, the catalytic oxidizer and its associated piping are affected facilities required to comply with the requirements for closed vent systems and control devices.

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

E.2.1 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.2.2 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, individual drain systems, 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.

(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.

§ 61.341 Definitions.

Benzene concentration means the fraction by weight of benzene in a waste as determined in accordance with the procedures specified in §61.355 of this subpart.

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.

Chemical manufacturing plant means any facility engaged in the production of chemicals by chemical, thermal, physical, or biological processes for use as a product, co-product, by-product, or intermediate including but not limited to industrial organic chemicals, organic pesticide products, pharmaceutical preparations, paint and allied products, fertilizers, and agricultural chemicals. Examples of chemical manufacturing plants include facilities at which process units are operated to produce one or more of the following chemicals: benzenesulfonic acid, benzene, chlorobenzene, cumene, cyclohexane, ethylene, ethylbenzene, hydroquinone, linear alklylbenzene, nitrobenzene, resorcinol, sulfolane, or styrene.

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 source to a control device.

Coke by-product recovery plant means any facility designed and operated for the separation and recovery of coal tar derivatives (by-products) evolved from coal during the coking process of a coke oven battery.

Container means any portable waste management unit in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

Control device means an enclosed combustion device, vapor recovery system, or flare.

Cover means a device or system which is placed on or over a waste placed in a waste management unit so that the entire waste surface area is enclosed and sealed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed and sealed when not in use. Example of covers include a fixed roof installed on a tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

External floating roof means a pontoon-type or double-deck type cover with certain rim sealing mechanisms that rests on the liquid surface in a waste management unit with no fixed roof.

Facility means all process units and product tanks that generate waste within a stationary source, and all waste management units that are used for waste treatment, storage, or disposal within a stationary source.

Fixed roof means a cover that is mounted on a waste management unit in a stationary manner and that does not move with fluctuations in liquid level.

Floating roof means a cover with certain rim sealing mechanisms consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and unit wall.

Flow indicator means a device which indicates whether gas flow is present in a line or vent system.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous streams generated by facility 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 the facility. The fuel is piped directly to each individual combustion device, and the system typically operates at pressures over atmospheric.

Individual drain system means the system used to convey waste from a process unit, product storage tank, or waste management unit to a waste management unit. The term includes all process drains and common junction boxes, together with their associated sewer lines and other junction boxes, down to the receiving waste management unit.

Internal floating roof means a cover that rests or floats on the liquid surface inside a waste management unit that has a fixed roof.

Liquid-mounted seal means a foam or liquid-filled primary seal mounted in contact with the liquid between the waste management unit wall and the floating roof continuously around the circumference.

Loading means the introduction of waste into a waste management unit but not necessarily to complete capacity (also referred to as filling).

Maximum organic vapor pressure means the equilibrium partial pressure exerted by the waste at the temperature equal to the highest calendar-month average of the waste storage temperature for waste stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for waste stored at the ambient temperature, as determined:

(1) In accordance with §60.17(c); or

(2) As obtained from standard reference texts; or

(3) In accordance with §60.17(a)(37); or

(4) Any other method approved by the Administrator.

No detectable emissions means less than 500 parts per million by volume (ppmv) above background levels, as measured by a detection instrument reading in accordance with the procedures specified in §61.355(h) of this subpart.

Oil-water separator means a waste management unit, generally a tank or surface impoundment, used to separate oil from water. An oil-water 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 additional treatment units such as an air flotation unit, clarifier, or biological treatment unit. Examples of an oil-water separator include an API separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

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.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Point of waste generation means the location where the waste stream exits the process unit component or storage tank prior to handling or treatment in an operation that is not an integral part of the production

process, or in the case of waste management units that generate new wastes after treatment, the location where the waste stream exits the waste management unit component.

Process unit means equipment assembled and connected by pipes or ducts to produce intermediate or final products. A process unit can be operated independently if supplied with sufficient fuel or raw materials and sufficient product storage facilities.

Process unit turnaround means the shutting down of the operations of a process unit, the purging of the contents of the process unit, the maintenance or repair work, followed by restarting of the process.

Process unit turnaround waste means a waste that is generated as a result of a process unit turnaround.

Process wastewater means water which comes in contact with benzene during manufacturing or processing operations conducted within a process unit. Process wastewater is not organic wastes, process fluids, product tank drawdown, cooling tower blowdown, steam trap condensate, or landfill leachate.

Process wastewater stream means a waste stream that contains only process wastewater.

Product tank means a stationary unit that is designed to contain an accumulation of materials that are fed to or produced by a process unit, and is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

Product tank drawdown means any material or mixture of materials discharged from a product tank for the purpose of removing water or other contaminants from the product tank.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which 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. 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 air emission control 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, ignitable, explosive, reactive, or hazardous materials.

Segregated storm water sewer system means a drain and collection system designed and operated for the sole purpose of collecting rainfall runoff at a facility, and which is segregated from all other individual drain systems.

Sewer line means a lateral, trunk line, branch line, or other enclosed conduit used to convey waste to a downstream waste management unit.

Slop oil means the floating oil and solids that accumulate on the surface of an oil-water separator.

Sour water stream means a stream that:

(1) Contains ammonia or sulfur compounds (usually hydrogen sulfide) at concentrations of 10 ppm by weight or more;

(2) Is generated from separation of water from a feed stock, intermediate, or product that contained ammonia or sulfur compounds; and

(3) Requires treatment to remove the ammonia or sulfur compounds.

Sour water stripper means a unit that:

(1) Is designed and operated to remove ammonia or sulfur compounds (usually hydrogen sulfide) from sour water streams;

(2) Has the sour water streams transferred to the stripper through hard piping or other enclosed system; and

(3) Is operated in such a manner that the offgases are sent to a sulfur recovery unit, processing unit, incinerator, flare, or other combustion device.

Surface impoundment means a waste management unit which is a natural topographic 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 liquid wastes or waste containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank means a stationary waste management unit that is designed to contain an accumulation of waste and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

Treatment process means a stream stripping unit, thin-film evaporation unit, waste incinerator, or any other process used to comply with §61.348 of this subpart.

Vapor-mounted seal means a foam-filled primary seal mounted continuously around the perimeter of a waste management unit so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the unit wall, the liquid surface, and the floating roof.

Waste means any material resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, thermally, or biologically treated prior to being discarded, recycled, or discharged.

Waste management unit means a piece of equipment, structure, or transport mechanism used in handling, storage, treatment, or disposal of waste. Examples of a waste management unit include a tank, surface impoundment, container, oil-water separator, individual drain system, steam stripping unit, thin-film evaporation unit, waste incinerator, and landfill.

Waste stream means the waste generated by a particular process unit, product tank, or waste management unit. The characteristics of the waste stream (e.g., flow rate, benzene concentration, water content) are determined at the point of waste generation. Examples of a waste stream include process wastewater, product tank drawdown, sludge and slop oil removed from waste management units, and landfill leachate.

Wastewater treatment system means any component, piece of equipment, or installation that receives, manages, or treats process wastewater, product tank drawdown, or landfill leachate prior to direct or indirect discharge in accordance with the National Pollutant Discharge Elimination System permit regulations under 40 CFR part 122. These systems typically include individual drain systems, oil-water separators, air flotation units, equalization tanks, and biological treatment units.

Water seal controls means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

§ 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 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 treatments 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) 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:

(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.

(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.

(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.

§ 61.346 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 detactable 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.

§ 61.348 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:

(i) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall meet one of the following conditions:

(A) Reduce the organic emissions vented to it by 95 percent weight or greater;

(B) Achieve a total organic compound concentration of 20 ppmv (as the sum of the concentrations for individual compounds using Method 18) on a dry basis corrected to 3 percent oxygen; or

(C) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760^0C ($1,400^0$F). If a boiler or process heater issued at the control device, then the vent stream shall be introduced into the flame zone of the boiler of process heater.

(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 subiect 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.

§ 61.354 Monitoring of operations.

(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.

(2) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations, and have an accuracy of $\pm$1 percent of the temperature being monitored in ^{0}C or $\pm$0.5, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(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:

$$\bar{C} = \frac{1}{Q_t} \times \sum_{i=1}^{n} (Q_i)(C_i)$$

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:

$$M_{bj} = \frac{K_1 V_{bj}}{10^6}\left(\sum_{i=1}^{n} C_{bi} MW_i\right)$$

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.

(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:

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall establish the design minimum and average temperature across the catalyst bed inlet and outlet.

(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.

(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.

(5) If a catalytic vapor incinerator is used, then the owner or operator shall maintain continuous records of the temperature in the gas stream both upstream and downstream of the catalyst bed of the incinerator, records of all 3-hour periods of operation during which the average temperature measured before the catalyst bed is more than 28^0C (50^0F) below the design gas stream temperature., and records of all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the design temperature difference.

(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.

§ 61.358 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Clean Air Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Alternative means of emission limitation under §61.353 of this subpart will not be delegated to States.

E.2.3 One Time Deadlines Relating to 40 CFR 61, Subpart FF

The Permittee shall comply with the following requirements by the dates listed below:

Requirement	Rule Citation	Affected Facility	Deadline
Notification of the anticipated date of initial startup	40 CFR 61.09(a)(1)	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	Between 60 and 30 days prior to startup
Notification of Actual	40 CFR 61.09(a)(2)	TK-1, TK-2, and T-3,	Within 15-days of

Requirement	Rule Citation	Affected Facility	Deadline
Startup		Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	startup
Initial notification	40 CFR 61.10(a)	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	Within 90-days of the effective date
Changes to the initial notification	40 CFR 61.10(c)	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	Within 30-days of making a change
Prior notification of Emission Testing	40 CFR 61.13(c)	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	At least 30-days prior to test
Emission Testing	40 CFR 61.13(a)	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	Within 90-days of startup
Completion of testing analysis	40 CFR 61.13(f)	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	Within 30-days of completion of testing
Initial report and certification	40 CFR 61.357	TK-1, TK-2, and T-3, Mix Tank, Centrifuge, Catalytic Oxidizer and closed vent system	Within 90-days after the compliance date

SECTION E.3 40 CFR Part 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

Facility Description [326 IAC 2-7-5(15)]

(h) 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.)

E.3.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]

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.3.2 NESHAP Subpart CC Requirements [40 CFR Part 63, Subpart CC] [326 IAC 20-16]

Pursuant to 40 CFR Part 63, Subpart CC, the Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart CC, which are incorporated by reference as 326 IAC 20-16, for equipment leaks from pumps, valves, and connectors located at the Tank Cleaning Facility:

Subpart CC—National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

§ 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) Storm water from segregated storm water 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.

(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.

(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.

ΣES_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.

ΣEMV_2 = Sum of the emissions, megagrams per year from all Group 2 marine tank vessels, as defined in §63.641.

ΣEWW_{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).

ΣEWW_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.

(l) The owner or operator of an existing source may elect to control some of the emission points within the source to different levels than specified under §§63.643 through 63.647, §§63.650 and 63.651 by using an emissions averaging compliance approach as long as the overall emissions for the source do not exceed the emission level specified in paragraph (g) of this section. The owner or operator using emissions averaging shall meet the requirements in paragraphs (l)(1) and (l)(2) of this section.

(1) Calculate emission debits and credits for those emission points involved in the emissions average according to the procedures specified in §63.652; and

(2) Comply with the requirements of §§63.652, 63.653, and 63.654, as applicable.

(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.

§ 63.648 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.

(2) Calculation of percentage leaking equipment components for subpart VV of 40 CFR part 60 may be done on a process unit basis or a source wide basis. Once the owner or operator has decided, all subsequent calculations shall be on the same basis unless a permit change is made.

(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.

(c) In lieu of complying with the existing source provisions of paragraph (a) in this section, an owner or operator may elect to comply with the requirements of §§63.161 through 63.169, 63.171, 63.172, 63.175, 63.176, 63.177, 63.179, and 63.180 of subpart H of this part except as provided in paragraphs (c)(1) through (c)(10) and (e) through (i) of this section.

(1) The instrument readings that define a leak for light liquid pumps subject to §63.163 of subpart H of this part and gas/vapor and light liquid valves subject to §63.168 of subpart H of this part are specified in table 2 of this subpart.

(2) In phase III of the valve standard, the owner or operator may monitor valves for leaks as specified in paragraphs (c)(2)(i) or (c)(2)(ii) of this section.

(i) If the owner or operator does not elect to monitor connectors, then the owner or operator shall monitor valves according to the frequency specified in table 8 of this subpart.

(ii) If an owner or operator elects to monitor connectors according to the provisions of §63.649, paragraphs (b), (c), or (d), then the owner or operator shall monitor valves at the frequencies specified in table 9 of this subpart.

(3) The owner or operator shall decide no later than the first required monitoring period after the phase I compliance date specified in §63.640(h) whether to calculate the percentage leaking valves on a process unit basis or on a source wide basis. Once the owner or operator has decided, all subsequent calculations shall be on the same basis unless a permit change is made.

(4) The owner or operator shall decide no later than the first monitoring period after the phase III compliance date specified in §63.640(h) whether to monitor connectors according to the provisions in §63.649, paragraphs (b), (c), or (d).

(5) Connectors in gas/vapor service or light liquid service are subject to the requirements for connectors in heavy liquid service in §63.169 of subpart H of this part (except for the agitator provisions). The leak definition for valves, connectors, and instrumentation systems subject to §63.169 is 1,000 parts per million.

(6) In phase III of the pump standard, except as provided in paragraph (c)(7) of this section, owners or operators that achieve less than 10 percent of light liquid pumps leaking or three light liquid pumps leaking, whichever is greater, shall monitor light liquid pumps monthly.

(7) Owners or operators that achieve less than 3 percent of light liquid pumps leaking or one light liquid pump leaking, whichever is greater, shall monitor light liquid pumps quarterly.

(8) An owner or operator may make the election described in paragraphs (c)(3) and (c)(4) of this section at any time except that any election to change after the initial election shall be treated as a permit modification according to the terms of part 70 of this chapter.

(9) When complying with the requirements of §63.168(e)(3)(i), non-repairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and non-repairable. Otherwise, a number of non-repairable valves up to a maximum of 1 percent per year of the total number of valves in organic HAP service up to a maximum of 3 percent may be excluded from calculation of percent leaking valves for subsequent monitoring periods. When the number of non-repairable valves exceeds 3 percent of the total number of valves in organic HAP service, the number of non-repairable valves exceeding 3 percent of the total number shall be included in the calculation of percent leaking valves.

(10) If in phase III of the valve standard any valve is designated as being leakless, the owner or operator has the option of following the provisions of 40 CFR 60.482–7(f). If an owner or operator chooses to comply with the provisions of 40 CFR 60.482–7(f), the valve is exempt from the valve monitoring provisions of §63.168 of subpart H of this part.

(e) For reciprocating pumps in heavy liquid service and agitators in heavy liquid service, owners and operators are not required to comply with the requirements in §63.169 of subpart H of this part.

(f) Reciprocating pumps in light liquid service are exempt from §§63.163 and 60.482 if recasting the distance piece or reciprocating pump replacement is required.

(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.

§ 63.654 Reporting and recordkeeping requirements.

(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).

(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.

(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.

(i) Recordkeeping.

(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.

Appendix to Subpart CC of Part 63—Tables

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 2_Leak Definitions for Pumps and Valves

Standard \a\	Phase	Leak definition (parts per million)
§ 63.163 (pumps)	I	10,000
	II	5,000
	III	2,000
§ 63.168 (valves)	I	10,000
	II	1,000
	III	1,000

\a\ Subpart H of this part.

Table 3_Equipment Leak Recordkeeping and Reporting Requirements for Sources Complying With § 63.648 of Subpart CC by Compliance With Subpart H of this Part \a\

Reference (section of subpart H of this part)	Description	Comment
63.181(a).....	Recordkeeping system requirements.	Except for §§ 63.181(b)(2)(iii) and 63.181(b)(9).
63.181(b).....	Records required for process unit equipment.	Except for §§ 63.181(b)(2)(iii) and 63.181(b)(9).
63.181(c).....	Visual inspection documentation.	Except for §§ 63.181(b)(2)(iii) and 63.181(b)(9).
63.181(d).....	Leak detection record requirements.	Except for § 63.181(d)(8).
63.181(e).....	Compliance requirements for pressure tests for batch product process equipment trains.	This subsection does not apply to subpart CC.
63.181(f).....	Compressor compliance test records.	.....
63.181(g).....	Closed-vent systems and control device record requirements.	.....
63.181(h).....	Process unit quality improvement program records.	.....
63.181(i).....	Heavy liquid service determination record.	.....
63.181(j).....	Equipment identification record.	.....
63.181(k).....	Enclosed-vented process unit emission limitation record requirements.	.....
63.182(a).....	Reports.	
63.182(b).....	Initial notification report requirements.	Not required.
63.182(c).....	Notification of compliance status report.	Except in § 63.182(c); change ``within 90 days of the compliance dates'' to ``within 150 days of the compliance dates''; except in §§ 63.182 (c)(2) and (c)(4).

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63.182(d)..................  Periodic report.....  Except for
                                                    §§ 63.182
                                                    (d)(2)(vii),
                                                    (d)(2)(viii), and
                                                    (d)(3).
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\a\ This table does not include all the requirements delineated under
  the referenced sections. See referenced sections for specific
  requirements.
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E.3.3 One Time Deadlines Relating to NESHAP Subpart CC

The Permittee shall comply with the following requirements by the dates listed below:

Requirement	Rule Citation	Affected Facility	Deadline
Initial Semiannual Compliance Report	40 CFR 63.654(g)	Pumps, Valves, and Connectors.	The date of the Notification of Compliance Status is required to be submitted
Notification of Compliance Status	40 CFR 63.654(e)(1)	Pumps, Valves, and Connectors	Within 150-days of the compliance date

SECTION E.4 40 CFR Part 60, Subpart VV – New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

Facility Description [326 IAC 2-7-5(15)]

(h) 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.)

E.4.1 NSPS Subpart VV Requirements [40 CFR Part 63, Subpart CC] [326 IAC 20-16][40 CFR 60, Subpart VV]

Pursuant to 40 CFR Part 63.648, the Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart VV for equipment leaks from pumps, valves, and connectors located at the Tank Cleaning Facility:

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.

(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, and 60.482–10 as provided in §60.484.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, or 60.482–10, 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 §§60.482–2 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.

§ 60.482-7 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.

§ 60.485 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.

§ 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.

(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.

(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.

(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 §60.480(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.

§ 60.487 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).

(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),

(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.

(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 Act, 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.

E.4.3 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 Tests	40 CFR 60.8	Pumps, Valves, and Connectors	Within 60-days after achieving maximum production rate but not later than 180-days after initial startup
Notification of Schedule of Initial Performance Tests	40 CFR 60.487(d)	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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: BP Products North America, Inc. – Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard
Mailing Address: P.O. Box 710, Whiting, Indiana 46394
Minor Source Modification: 089-23147-00453

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 BRANCH
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 SOURCE MODIFICATION
EMERGENCY OCCURRENCE REPORT

Source Name: BP Products North America, Inc. – Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard
Mailing Address: P.O. Box 710, Whiting, Indiana 46394
Minor Source Modification: 089-23147-00453

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 **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
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: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: BP Products North America, Inc. – Whiting Business Unit
Source Address: 2815 Indianapolis Boulevard
Mailing Address: P.O. Box 710, Whiting, Indiana 46394
Minor Source Modification: 089-23147-00453
Facility: Tank Cleaning Facility
Parameter: Operating Hours
Limit: 2,513 hours per twelve (12) consecutive month period with compliance determined at the end of each month

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: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70
Minor Source Modification

Source Description and Location

Source Name:	BP Products North America, Inc., Whiting Business Unit
Source Location:	2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
County:	Lake
SIC Code:	2911
Operation Permit No.:	T089-6741-00453
Operation Permit Issuance Date:	Not Yet Issued
Minor Source Modification No.:	089-23177-00453
Permit Reviewer:	ERG/AAB

Source Definition

This stationary source consists of two (2) plants:

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

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

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

Existing Approvals

The source submitted an application for a Part 70 Operating Permit on September 30, 1996. At this time, this application is still under review.

The source has constructed or has been operating under the following previous approvals:

(1) Operation Permit (OP 45-06-92-0467), issued September 7, 1989.
(2) Operation Permit (OP 45-08-93-0521), issued January 12, 1990.
(3) Operation Permit (OP 45-08-93-0522), issued January 12, 1990.
(4) Operation Permit (OP 45-08-93-0523), issued January 12, 1990.
(5) Operation Permit (OP 45-08-93-0524), issued January 12, 1990.
(6) Operation Permit (OP 45-08-93-0525), issued January 12, 1990.
(7) Operation Permit (OP 45-08-93-0526), issued January 12, 1990.
(8) Operation Permit (OP 45-08-93-0527), issued January 12, 1990.
(9) Operation Permit (OP 45-08-93-0528), issued January 12, 1990.
(10) Operation Permit (OP 45-08-93-0529), issued January 12, 1990.
(11) Operation Permit (OP 45-08-93-0530), issued January 12, 1990.
(12) Operation Permit (OP 45-08-93-0531), issued January 12, 1990.
(13) Operation Permit (OP 45-08-93-0532), issued January 12, 1990.
(15) Operation Permit (OP 45-08-93-0533), issued January 12, 1990.

(16) Operation Permit (OP 45-08-93-0534), issued January 12, 1990.
(17) Operation Permit (OP 45-08-93-0535), issued January 12, 1990, amended on February 15, 1993.
(18) Operation Permit (OP 45-08-93-0536), issued January 12, 1990.
(19) Operation Permit (OP 45-08-93-0537), issued January 12, 1990.
(20) Operation Permit (OP 45-08-93-0538), issued January 12, 1990.
(21) Operation Permit (OP 45-08-93-0539), issued January 12, 1990.
(22) Operation Permit (OP 45-08-93-0540), issued January 12, 1990.
(23) Operation Permit (OP 45-08-93-0541), issued January 12, 1990.
(24) Operation Permit (OP 45-08-93-0542), issued January 12, 1990.
(25) Operation Permit (OP 45-08-93-0543), issued January 12, 1990.
(26) Operation Permit (OP 45-08-93-0544), issued January 12, 1990.
(27) Operation Permit (OP 45-08-93-0545), issued January 12, 1990.
(28) Operation Permit (OP 45-08-93-0546), issued January 12, 1990, amended on April 14, 1993.
(29) Operation Permit (OP 45-08-93-0547), issued January 12, 1990.
(30) Operation Permit (OP 45-08-93-0548), issued January 12, 1990.
(31) Operation Permit (OP 45-08-93-0549), issued January 12, 1990.
(32) Operation Permit (OP 45-08-93-0550), issued January 12, 1990.
(33) Operation Permit (OP 45-08-93-0551), issued January 12, 1990.
(34) Operation Permit (OP 45-08-93-0552), issued January 12, 1990.
(35) Operation Permit (OP 45-08-93-0553), issued January 12, 1990.
(36) Operation Permit (OP 45-08-93-0554), issued January 12, 1990.
(37) Operation Permit (OP 45-08-93-0555), issued January 12, 1990.
(38) Operation Permit (OP 45-08-93-0556), issued January 12, 1990.
(39) Operation Permit (OP 45-08-93-0557), issued January 12, 1990.
(40) Operation Permit (OP 45-08-93-0558), issued January 12, 1990.
(41) Operation Permit (OP 45-08-93-0559), issued January 12, 1990.
(42) Operation Permit (OP 45-08-93-0560), issued January 12, 1990.
(43) Operation Permit (OP 45-08-93-0561), issued January 12, 1990, amended on October 28, 1992, April 14, 1993, and October 29, 1993.
(44) Operation Permit (OP 45-08-93-0562), issued January 12, 1990, amended on April 14, 1993.
(45) Operation Permit (OP 45-08-93-0563), issued January 12, 1990.
(46) Operation Permit (OP 45-08-93-0564), issued January 12, 1990.
(47) Operation Permit (OP 45-08-93-0565), issued January 12, 1990.
(48) Operation Permit (OP 45-08-93-0566), issued January 12, 1990.
(49) Operation Permit (OP 45-08-93-0567), issued January 12, 1990.
(50) Operation Permit (OP 45-08-93-0568), issued January 12, 1990.
(51) Operation Permit (OP 45-08-93-0569), issued January 12, 1990.
(52) Operation Permit (OP 45-08-93-0570), issued January 12, 1990.
(52) Operation Permit (OP 45-08-93-0571), issued January 12, 1990.
(53) Operation Permit (OP 45-08-93-0572), issued January 12, 1990.
(54) Operation Permit (OP 45-08-93-0573), issued January 12, 1990.
(55) Operation Permit (OP 45-08-93-0574), issued January 12, 1990.
(56) Operation Permit (OP 45-08-93-0575), issued January 12, 1990.
(57) Operation Permit (OP 45-08-93-0576), issued January 12, 1990.
(58) Operation Permit (OP 45-08-93-0577), issued January 12, 1990.
(59) Operation Permit (OP 45-08-93-0578), issued January 12, 1990.
(60) Operation Permit (OP 45-08-93-0579), issued January 12, 1990.
(61) Registration (no identification number), issued November 13, 1990.
(62) Registration (CP 089-2134), issued July 31, 1991.
(63) Registration (CP 089-2123), issued September 12, 1991.
(64) Registration (CP 089-2417), issued March 5, 1992.
(65) Construction Permit (CP 089-2055), issued March 12, 1992, amended on August 2, 1993 and February 19, 1999 (089-9931).
(66) Permit (089-3077), issued May 14, 1993.
(67) Registration (CP 089-2934), issued June 7, 1993.
(68) Permit (089-2849), issued July 8, 1993.

(69) Permit (089-3118), issued November 2, 1993.
(70) Construction Permit (CP 089-3053), issued March 31, 1994.
(71) Registration (CP 089-3324), issued April 29, 1994.
(72) Permit (089-3716) issued May 23, 1994.
(73) Construction Permit (CP 089-3323), issued December 14, 1994.
(74) Registration (CP 089-4339), issued April 21, 1995.
(75) Registration (CP 089-5243), issued February 20, 1996.
(76) Operation Permit (HDEM 00204), issued March 8, 1996.
(77) Operation Permit (HDEM 00205), issued March 8, 1996.
(78) Operation Permit (HDEM 00206), issued March 8, 1996.
(79) Operation Permit (HDEM 00207), issued March 8, 1996.
(80) Operation Permit (HDEM 00208), issued March 8, 1996.
(81) Operation Permit (HDEM 00209), issued March 8, 1996.
(82) Operation Permit (HDEM 00210), issued March 8, 1996.
(83) Operation Permit (HDEM 00211), issued March 8, 1996.
(84) Operation Permit (HDEM 00212), issued March 8, 1996.
(85) Operation Permit (HDEM 00213), issued March 8, 1996.
(86) Operation Permit (HDEM 00214), issued March 8, 1996.
(87) Operation Permit (HDEM 00215), issued March 8, 1996.
(88) Operation Permit (HDEM 00216), issued March 8, 1996.
(89) Operation Permit (HDEM 00217), issued March 8, 1996.
(90) Operation Permit (HDEM 00218), issued March 8, 1996.
(91) Operation Permit (HDEM 00219), issued March 8, 1996.
(92) Operation Permit (HDEM 00220), issued March 8, 1996.
(93) Operation Permit (HDEM 00221), issued March 8, 1996.
(94) Operation Permit (HDEM 00222), issued March 8, 1996.
(95) Operation Permit (HDEM 00223), issued March 8, 1996.
(96) Operation Permit (HDEM 00224), issued March 8, 1996.
(97) Operation Permit (HDEM 00225), issued March 8, 1996.
(98) Operation Permit (HDEM 00226), issued March 8, 1996.
(99) Operation Permit (HDEM 00227), issued March 8, 1996.
(100) Operation Permit (HDEM 00228), issued March 8, 1996.
(101) Operation Permit (HDEM 00229), issued March 8, 1996.
(102) Operation Permit (HDEM 00230), issued March 8, 1996.
(103) Operation Permit (HDEM 00231), issued March 8, 1996.
(104) Operation Permit (HDEM 00232), issued March 8, 1996.
(105) Operation Permit (HDEM 00233), issued March 8, 1996.
(106) Operation Permit (HDEM 00234), issued March 8, 1996.
(107) Operation Permit (HDEM 00235), issued March 8, 1996.
(108) Operation Permit (HDEM 00236), issued March 8, 1996.
(109) Operation Permit (HDEM 00237), issued March 8, 1996.
(110) Operation Permit (HDEM 00238), issued March 8, 1996.
(111) Operation Permit (HDEM 00239), issued March 8, 1996.
(112) Operation Permit (HDEM 00240), issued March 8, 1996.
(113) Operation Permit (HDEM 00241), issued March 8, 1996.
(114) Operation Permit (HDEM 00242), issued March 8, 1996.
(115) Operation Permit (HDEM 00243), issued March 8, 1996.
(116) Construction Permit (CP 089-4822), issued April 19, 1996.
(117) Construction Permit (CP 089-5157), issued July 15, 1996, amended July 19, 1999 (089-10795).
(118) Permit (089-8275), issued April 30, 1997.
(119) Permit (089-9003), issued November 19, 1997.
(120) Permit (089-9484), issued March 4, 1998.
(121) Permit (089-10499), issued February 15, 1999.
(122) Permit (089-10419), issued February 23, 1999.
(123) Minor Source Modification Permit (089-11960), issued June 28, 2000.
(124) Minor Source Modification Permit (089-11984), issued July 20, 2000.
(125) Minor Source Modification Permit (089-14239), issued May 14, 2001.
(126) Significant Source Modification Permit (089-13846), issued June 27, 2001,

amended April 15, 2002 (089-15525).
(127) Exempt Construction and Operation Status Permit (089-14450), issued July 18, 2001.
(128) Significant Source Modification Permit (089-14210), issued September 12, 2001.
(129) Significant Source Modification Permit (089-14630), issued November 31, 2001, amended April 24, 2002 (089-15202) and October 18, 2002 (089-15500).
(130) Minor Source Modification Permit (089-16586), issued January 3, 2003.
(131) Minor Permit Modification (089-16840), issued May 14, 2003.
(132) Exemption (089-16960), issued May 27, 2003.
(133) Minor Permit Modification (089-17230), issued September 10, 2003.
(134) Significant Source Modification (089-15052), issued November 17, 2003.
(135) Exemption (089-19041), issued June 22, 2004.
(136) Significant Permit Modification (089-18588), issued July 15, 2004.
(137) Significant Source Modification (089-19754), issued October 20, 2004.
(138) Minor Source Modification (089-21591), issued October 12, 2005.
(139) Administrative Amendment (089-21879), issued November 18, 2005.
(140) Minor Source Modification (089-21682), issued December 20, 2005.
(141) Minor Source Modification (089-22548), issued February 28, 2006.
(142) Significant Permit Modification (089-22706), issued June 5, 2006.
(143) Minor Source Modification (089-23341), issued August 25, 2006.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM10	Maintenance Attainment
PM2.5	Nonattainment
SO_2	Maintenance Attainment
NO_2	Attainment
8-hour Ozone	Moderate Nonattainment
CO	Maintenance Attainment
Lead	Attainment

Note: Effective on October 25, 2006, 326 IAC 1-4-1 has been revised to revoke the one-hour ozone standard and redesignate Lake County to attainment for the Sulfur Dioxide standard.

(a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.

(b) U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. 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 guidance to regulate PM10 emissions as a surrogate for PM2.5 emissions pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(c) Lake County has been classified as attainment or unclassifiable for PM_{10}, SO_2, NO_2, CO, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive PM and VOC emissions are counted toward determination of PSD and Emission Offset 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 (tons/year)
PM	>100
PM10	>100
SO_2	>100
VOC	>100
CO	>100
NO_x	>100

(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, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) This existing source is a major stationary source under Emission Offset (326 IAC 2-3) because the nonattainment regulated pollutants PM10 (as surrogate for $PM_{2.5}$), VOC and NO_x are emitted at a rate of 100 tons per year or more.

(c) These emissions are based upon the 2003 emissions data submitted to IDEM, OAQ by BP.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

HAPs	Potential To Emit (tons/year)
Single HAPs	>10
TOTAL HAPs	>25

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, 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).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	—
PM10	557
SO_2	3,385
VOC	1,274
CO	2,058
NO_x	7.637
HAP (Lead)	0.03*

"—" no data provided.
***** No data provided for other HAPs. Source stated in their application that they are a major source of HAPs.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by BP on June 2, 2006, relating to the construction of a tank cleaning facility. The following is a list of the proposed emission units and pollution control device:

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 controlled using an electric catalytic oxidizer, identified as F-1. The facility is approved for construction in 2006, is operated as a batch process, and consists of the following emission units:

(a) One (1) mix tank with a maximum capacity of 18,000 gallons and emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the mix tank is an affected facility subject to the requirements for treatment processes.

(b) One (1) centrifuge with emissions controlled by the catalytic oxidizer F-1. Under 40 CFR 61, Subpart FF, the centrifuge is an affected facility subject to the requirements for treatment processes.

(c) One (1) diesel-fired boiler, identified as C-1, with a maximum heat input capacity of 5.02 MMBtu per hour. Emissions are exhausted at stack C-1-01. There is no control device for this emission unit.

(d) One (1) diesel-fired air compressor, identified as J-2, with a maximum heat input capacity of 0.90 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.

(e) One (1) diesel-fired process pump, identified as J-1, with a maximum heat input capacity of 0.71 MMBtu per hour. This pump is a 100 hp reciprocating internal combustion engine. Emissions are exhausted through vent J-1. There are no control devices for this emission unit.

(f) Three (3) portable, carbon steel, rectangular storage tanks, including:

(1) One (1) Reclaimed Oil Tank, identified as TK-1, with a maximum storage capacity of 21,000 gallons and used to store reclaimed sludge and cutter stock. Emissions are controlled by the catalytic oxidizer F-1.

(2) One (1) Cutter Stock Tank identified as TK-2, with a maximum storage capacity of 21,000 gallons and used to store Cutter Stock. Emissions are controlled by the catalytic oxidizer F-1.

(3) One (1) Concentrate Tank, identified as TK-3, with a maximum storage capacity of 18,000 gallons and used to store cutter stock and tank sludge mix. Emissions are controlled by the catalytic oxidizer F-1.

Under 40 CFR 61, Subpart FF, tanks TK-1, TK-2, and TK-3 are affected facilities required to comply with the requirements for tanks.

(g) One (1) electric catalytic oxidizer, identified as F-1, with a maximum VOC input of 2200 ppmv and 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. Under 40 CFR 61, Subpart FF, the catalytic oxidizer (F-1) and its

associated piping are affected facilities required to comply with the requirements for closed vent systems and control devices.

(h) 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.

Enforcement Issues

There are no pending enforcement actions.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
F-1-01	Electric Catalytic Oxidizer	11	0.5	400	572
C-1-01	Boiler	15.5	1.0	2,100	360

Emission Calculations

See Appendix A of this document for detailed emission calculations.

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), 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.

Pollutant	Potential To Emit (tons/year)
PM	2.44
PM10	2.65
SO_2	13.4
VOC	86.1
CO	7.24
NO_x	33.1

HAPs	Potential To Emit (tons/year)
Xylenes	$1.97x10^{-3}$
Toluene	$8.92x10^{-3}$
Hexane	0.11
TOTAL	0.134

This source modification is subject to 326 IAC 2-7-10.5(d)(4)(B), because the emissions from this modification will be limited to less than 25 tons per year for VOC and NO_x, and less than 10 tons per year for any single HAP and less than 25 tons per year of any combination of HAPs by limiting the annual hours of operation for the process.

Federal Rule Applicability Determination

(a) The electric catalytic incinerator is subject to the New Source Performance Standard 40 CFR 60, Subpart J - Standards of Performance for Petroleum Refineries, which is incorporated by reference as 326 IAC 12. This catalytic incinerator subject to this NSPS because it will combust off-gas from the tank cleaning operations and will be constructed at a refinery after June 11, 1973. Pursuant to 40 CFR 60.100(a), fuel gas combustion devices located at refineries are subject to the requirements of 40 CFR 60, Subpart J. The catalytic oxidizer meets the definition of a fuel gas combustion device provided in 40 CFR 60.101. Note that the U.S. EPA has previously determined that combustion devices used to control vapors from wastewater treatment and remediation activities meet the definition of a fuel gas combustion device (See U.S. EPA memorandum from Ken Gigliello to Phillip Guillemette (dated December 2, 1999), items (G) and (H) for additional information).

Nonapplicable portions of the NSPS will not be included in the permit. The catalytic oxidizer is subject to the following portions of Subpart J:

(1) 40 CFR 60.100(a) and (b).
(2) 40 CFR 60.101.
(3) 40 CFR 60.104(a)(1).
(4) 40 CFR 60.105(a)(3), (a)(4), and (e)(3).
(5) 40 CFR 60.106(a) and (e).
(6) 40 CFR 60.107(d), (e) and (f).
(7) 40 CFR 60.109.

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated in 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60, Subpart J.

Note: BP submitted an application to the U.S. Environmental Protection Agency (EPA) for an Alternative Monitoring Plan (AMP) in June 2006. The AMP proposed by BP would use sulfur sampling instead of the continuous emissions monitor (CEMS) requirement by 40 CFR 60, Subpart J. In thier response dated October 6, 2006, EPA stated that they had not approved the proposed AMP because BP had not provided sufficient data concerning the sulfur content of the wastewater from the tank cleaning process.

(b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(1) Although these storage tanks will be constructed after July 23, 1984, the requirements of 40 CFR 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 (326 IAC 12) are not included in this permit for the Mix Tank and storage tanks TK-1, TK-2, and TK-3. Storage tank TK-3 has a storage capacity less than 75 cubic meters (19,813 gallons). Storage tanks TK-1 and TK-2 have storage capacities that are greater than 75 cubic meters (19,813 gallons) and less than 151 cubic meters (39,890 gallons), but these tanks are used to store liquids that have a maximum true vapor pressure less than 15.0 kPa. The Mix Tank does not meet the definition of a storage vessel provided in 40 CFR 60.111b.

(2) The requirements of 40 CFR 60, Subparts K and Ka (326 IAC 12) are not included in this permit for the storage tanks TK-1, TK-2, and TK-3 and the Mix Tank, because these tanks will be installed after the applicability dates for these NSPS.

(3) The requirements of 40 CFR 60, Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Commenced After August 17, 1971 (326 IAC 12) are not included in this permit because the maximum heat input for this boiler is less than the 250 MMBtu/hour applicability threshold for this NSPS.

(4) The requirements of 40 CFR 60, Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978 (326 IAC 12) are not included in this permit because this boiler is not an electric utility steam generator.

(5) The requirements of 40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12) are not included in this permit because the maximum heat input for this boiler is less than the 100 MMBtu/hour applicability threshold for this NSPS.

(6) The requirements of 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12) are not included in this permit for Boiler C-1 are not included in this permit because the maximum heat input for this boiler is less than the 10 MMBtu/hour applicability threshold for this NSPS.

(7) The requirements of 40 CFR 60, Subpart J - Standards of Performance for Petroleum Refineries (326 IAC 12) are not included in this permit for Boiler C-1, pump engine J-2, and compressor engine J-1. Since these units combust only diesel fuel oil, they do not meet the definition of a 'fuel-gas combustion device' as defined in 40 CFR 60.101(d) and (g).

(8) The requirements of 40 CFR 60, Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries (326 IAC 12) are not included in this permit for the Tank Cleaning Facility. This rule applies to valves, pumps, pressure relief devices, sampling connection systems, open-ended valves or lines, and flanges or other connectors in VOC service. However, the components of the Tank Cleaning Facility (i.e., connectors, pumps, and valves) are subject to the equipment leak requirements of 40 CFR 63, Subpart CC. Pursuant to 40 CFR 63.640(p), equipment leaks that are also subject to the provisions of 40 CFR parts 60 are required to comply only with the provisions specified in 40 CFR 63, Subpart CC.

(9) The requirements of 40 CFR 60, Subpart QQQ – Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Treatment Systems (326 IAC 12) are not included in this permit. Wastewater generated by the Tank Cleaning Facility will be discharged to an existing wastewater treatment system. No new affected facilities (such as drain systems, oil-water separators, or aggregate facilities) are being constructed, modified or reconstructed as part of this modification. Pursuant to 40 CFR 60.690, Subpart QQQ applies only to affected facilities located in petroleum refineries for which construction, modification, or reconstruction is commenced after May 4, 1987.

(10) The requirements of 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Compression Engines are not included in this permit. This NSPS applied only to compression ignition engines. The internal combustion engines that will be used at the Tank Cleaning Facility will be spark ignition engines.

(c) The pump (identified as J-1) and compressor (identified as J-2) engines are subject to 40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (326 IAC 82) because they are located a major source of hazardous air pollutants and meet the definition of a

reciprocating internal combustion engine (RICE) in 40 CFR 63.6675. However, this NESHAP applies only to new stationary RICE with a site-rating of more than 500 brake horsepower. Since the pump and compressor engines will have a site-rating of less than 500 brake horsepower, there are no applicable requirements under this rule.

(d) Boiler C-1 is subject to 40 CFR 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters because it is a boiler located at a major source of hazardous air pollutants. Although this boiler will be installed at the Whiting plant after January 13, 2002, it does not meet the definition of construction or reconstruction as those terms are defined in 40 CFR 63.2, because the boiler is an existing unit that will be rented by BP and will not require any new components that cost more than 50% of the cost of installing a new boiler. Since the boiler will combust distillate oil (diesel) and will be rated at 5.02 MMBtu per hour, it belongs to the existing small liquid fuel subcategory (see 40 CFR 63.7575). Pursuant to 40 CFR 63.7506(c)(2), existing small liquid fuel units are not subject to the initial notification requirements in §63.9(b) and are not subject to any requirements in 40 CFR 63, Subpart DDDDD (i.e., the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements) or 40 CFR 63, Subpart A.

(e) The Tank Cleaning Facility is subject to the requirements of 40 CFR 63, Subpart CC because it is located a refinery that is a major source under Section 112 of the Clean Act. The specific emission units subject to this subpart include:

(1) The storage tanks TK-1, TK-2, and TK-3 meet the definition of Group 2 storage vessels provided in 40 CFR 63.641 because they have storage capacities that are less than 177 cubic meters (46,758 gallons). Although subject to 40 CFR 63, Subpart CC, there are no emission limitations applicable to Group 2 storage vessels located at existing refineries. The Mix Tank does not meet the definition of a storage vessel in 40 CFR 63.641 because it is not used to store material.

(2) The vents on the mix tank and centrifuge do not meet the definition of *miscellaneous process vents* provided in 40 CFR 63.641 because they are episodic or non-routine emissions that are associated with a maintenance activity.

(3) Wastewater from the Tank Cleaning Operation meets the definition of a *Group 2 wastewater stream* provided in 40 CFR 63.641 because it is has an annual wastewater generation of less than 10 Mg/year. Although subject to 40 CFR 63, Subpart CC, Group 2 wastewater streams are not subject to any requirements under the wastewater provisions in 40 CFR 63.647.

(4) Equipment leaks of VOC and HAP from valves, connectors and pumps in light-liquid or gas/vapor service. Since it is possible that the material removed from any storage tank cleaned will contain greater than 5 % HAP by weight, the equipment leak provisions of 40 CFR 63.648 are applicable to the Tank Cleaning Facility.

Portions of the NESHAP that are not applicable to this modification will not be included in this permit. The portions of 40 CFR 63, Subpart CC that are applicable to this modification include:

(A) 40 CFR 63.640(a), (c), (d), (g), (h), (p) and (q)
(B) 40 CFR 63.641
(C) 40 CFR 63.642(a), (c) through (g), and (i) through (m)
(D) 40 CFR 63.648(a) through (c), and (e) through (i)
(E) 40 CFR 63.654(d), (e), (f)(1)(i)(A), (g)(7), and (i)(4)
(F) 40 CFR 63.655
(G) Appendix to Subpart CC, Tables 1, 2 and 3.

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.

The equipment leak provisions of 40 CFR 63.648 require Tank Cleaning Facility be operated in compliance with the following portions of 40 CFR 60, Subpart VV:

(A) 40 CFR 60.482-1.
(B) 40 CFR 60.482-2(a) through (g).
(C) 40 CFR 60.482-7.
(D) 40 CFR 60.482-8.
(E) 40 CFR 60.482-9.
(F) 40 CFR 60.485(a) through (f).
(G) 40 CFR 60.486(a) through (c), (e), (f), and (h) through (k).
(H) 40 CFR 60.487(a), (b)(1) through (b)(3), (c)(1), (c)(2)(i) through (c)(2)(iv), (c)(2)(vii), (c)(3), (c)(4), (e), and (f).

(f) The requirements of 40 CFR 61, Subpart FF – National Emission Standard for Benzene Waste Operations (326 IAC 14) are applicable to the Tank Cleaning Facility, because the Tank Cleaning Facility will be located at a refinery and the wastewater generated by this facility may contain benzene.

Portions of the NESHAP that are not applicable to this modification will not be included in this permit. The portions of 40 CFR 61, Subpart FF that are applicable to this modification include:

(1) 40 CFR 61.340 (a) and (c).
(2) 40 CFR 61.341.
(3) 40 CFR 61.342 (a), (b), (c)(1), (c)(2), (c)(3), and (e) through (g).
(4) 40 CFR 61.343 (a)(1)(1)(A) and (B) and (b) through (d).
(6) 40 CFR 61.346 (a) and (b).
(8) 40 CFR 61.348 (a), (c), and (e) through (g).
(9) 40 CFR 61.349 (a)(1)(i) through (iv), (a)(2)(i), (ii) and (iv), (b) through (h).
(10) 40 CFR 61.350.
(13) 40 CFR 61.354 (c), (d), (f) and (g).
(14) 40 CFR 61.355 (a)(1) through (a)(3), (a)(6), (b)(1), (b)(3), (b)(5) through (b)(7), (c) through (e), (h) and (i).
(15) 40 CFR 61.356 (a), (b)(1), (b)(4), (b)(5), (c) through (d), (f)(1), (f)(2)(i)(B), (f)(2)(i)(G) and (H), (g), (h)(i)(1) through (3), (h)(i)(5), (j)(1) through (3), (j)(5), (j)(9) through (12), and (k) through (m).
(16) 40 CFR 61.357 (a)(1) through (4), (d)(1), (d)(2), (d)(5), (d)(6), (d)(7)(i), (d)(7)(iv)(I) and (J), (d)(7)(v), (d)(8), and (e) through (g).
(17) 40 CFR 61.358.

The provisions of 40 CFR 61, Subpart A – General Provisions, which are incorporated as 326 IAC 14-1, apply to the facility described in this section except when otherwise specified in 40 CFR 61, Subpart FF.

(g) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit. The requirements of 40 CFR 61, Subpart J – National Emissions Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene (326 IAC 14) are not included in this permit for the Tank Cleaning Facility. This facility is subject to the equipment leak requirements of 40 CFR 63, Subpart CC. Pursuant to 40 CFR 63.640(p), equipment leaks that are also subject to the provisions of 40 CFR parts 61 are required to comply only with the provisions specified in 40 CFR 63, Subpart CC.

(h) 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 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:

Emission Unit	Control Device Used	Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Boiler C-1	No	PM*	0.5	0.5	100	No	No
Process Pump J-1	No	PM*	0.96	0.96	100	No	No
Compressor J-2	No	PM*	1.16	1.16	100	No	No
Storage Tanks TK-1, TK-2, and TK-3	Yes	None**	-	-	-	No	-
Mix Tank and Centrifuge	Yes	VOC***	83.7	2.27	100	No	No

* - PM emissions are limited by 326 IAC 6.8-1-2.
** - The storage tanks are subject to the requirements of 40 CFR 63, Subpart CC, which does not include any emission limitations for these Group 2 storage tanks.
*** - VOC emissions are limited to less than 25 tons per year by a usage limit that makes 326 IAC 8-1-6 not applicable.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to the storage tanks, internal combustion engines (J-1 and J-2), boiler C-1, the Mix Tank, and Centrifuge because none of these units has a potential to emit greater than 100 tons per year before controls.

State Rule Applicability Determination

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (Nonattainment Area New Source Review)

As a refinery, this plant belongs to one of the twenty-eight (28) listed source categories and is a major source under 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (Nonattainment Area New Source Review). Lake County has been designated as nonattainment for PM2.5 and the 8-hour ozone standard.

The following table shows the unlimited potential to emit for the proposed modification:

	Unlimited Potential to Emit (tons/year)					
Process/facility	**PM**	**PM-10**	**SO_2**	**VOC**	**CO**	**NO_X**
Boiler C-1	0.30	0.50	11.2	0.10	0.80	3.1
Compressor Engine J-2	1.16	1.16	1.08	1.32	3.51	16.29
Pump Engine J-1	0.96	0.96	0.90	1.1	2.93	13.58
Storage Tanks, Mix Tanks, and Centrifuge	0	0	0	83.7	0	0
Fugitive Emissions	0	0	0.0	1.85	0.0	0.0
Total	**2.42**	**2.62**	**13.2**	**110**	**7.24**	**33.0**
PSD/Emission Offset/Nonattainment NSR Thresholds	**25**	**15**	**40**	**40**	**100**	**40**

The following table shows the limited PTE for this proposed modification:

	Limited Potential to Emit (tons/year)					
Process/facility	**PM**	**PM-10**	**SO_2**	**VOC**	**CO**	**NO_X**
Boiler C-1	3.29*	0.15	3.22	0.02	0.23	0.91
Compressor Engine J-2	0.33	0.33	0.3	0.38	0.99	4.6
Pump Engine J-1	0.27	0.27	0.25	0.32	0.83	3.83
Storage Tanks, Mix Tanks, and Centrifuge, and oxidizer	0.0001	0.0005	0.24	24.0	0.005	0.007
Fugitive Emissions	0	0	0.0	0.07	0.0	0.0
Total	**3.89**	**0.71**	**3.9**	**24.8**	**1.97**	**9.0**
PSD/Emission Offset/Nonattainment NSR Thresholds	**25**	**15**	**40**	**40**	**100**	**40**

*Boiler C-1 is limited to 0.15 lb/MMBtu by 326 IAC 6.8-1-2, which is equivalent to 3.29 tons per year at 8,760 hours per year. It is equivalent to 0.94 tons per year at 2,513 hours per year. The PTE for the boiler is 0.09 tons for 2,513 hours per year, based on AP42 emission factors

The increases in PM, PM10, NO_x, SO_2, and CO are less than the PSD and Emission Offset thresholds. The increase in PM10 (used as a surrogate for PM2.5) is less than the 15 ton per year threshold for Non-attainment Area New Source Review. The increase in VOC emissions, however, exceeds the 40 ton per year PSD and Emission Offset threshold. BP has requested limits be included in the permit such that the VOC emissions from the Tank Cleaning Facility will be limited to less than 40 tons per year and thereby making the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable. The electric catalytic oxidizer (F-1) is not required to meet the VOC emission limitation.

The following limitations have been included in the permit:

(a) The Tank Cleaning Facility shall be limited to 2,513 hours of operation per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Fugitive VOC emissions shall be controlled in accordance with the Leak Detection and Repair (LDAR) Plan submitted by the Permittee and included as Appendix A of the approval.

Compliance with these limitations 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 the Mix Tank;

Centrifuge; Boiler C-1; Compressor J-2; Processes Pump J-1; Storage Tanks T-1, T-2, and T-3; and electric catalytic oxidizer F-1.

These limits also make the requirements of 326 IAC 8-1-6 not applicable (see discussion of 326 IAC 8-1-6 later in this section).

326 IAC 5-1 (Opacity Limitations)

This source is located in the portion of Lake County described in 326 IAC 5-1-1(c)(4); therefore, the opacity shall be limited by 326 IAC 5-1-2(2).

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

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

Although the tank cleaning facility will be located in Lake County, it is not subject to the requirements of 326 IAC 8-7 because the tank cleaning conducted by this facility will be a batch operation. Pursuant to 326 IAC 8-7-2(a)(3)(H), batch operations are exempt from the requirements of this rule.

326 IAC 8-6 (Organic Solvent Emission Limitations)

The requirements of 326 IAC 8-6 do not apply to the tank cleaning facility because this facility was constructed after January 1, 1980.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants)

The new tank cleaning facility is not subject to the requirements of 326 IAC 2-4.1 because these units are regulated by National Emission Standards for Hazardous Air Pollutants issued pursuant to Section 112(d) of the Clean Air Act.

326 IAC 6-4 (Fugitive Dust Emissions)

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 6.8-10 (Lake County: Fugitive Particulate Matter)

Fugitive particulate matter from the refinery is subject to the requirements of 326 IAC 6.8-10 because it is one of the sources listed in 326 IAC 6.8-10-1(a)(2). However, there are no sources of fugitive particulate emissions associated with this modification. Therefore, the requirements of 326 IAC 6.8-10 are not included in this Minor Source Modification.

State Rule Applicability – Mix Tank and Centrifuge

326 IAC 8-1-6 (New Facilities: General Reduction Requirements)

The Mix Tank and Centrifuge will be constructed after January 1, 1980, are not subject to any other Article 8 rule, and have potential VOC emissions greater than 25 tons per year. BP has elected to limit the number of operating hours of the tank cleaning facility to 2,513 hours per twelve (12) consecutive month period. This operating limit will limit emissions of VOC to less than 25 tons per year.

Maximum VOC concentration = 2200 ppmv (worst case based on process knowledge)
Maximum Flow Rate = 400 scfm

Maximum VOC Emitted =
(400 scfm)(2200/1x10^6)(130g/mol/22.41L/mol)(28.32L/cf VOC)(0.0022lb/g)(60min/hr) = 19.1 pounds hour or 24 tons per year.

326 IAC 6.8-1-2 (Particulate Emissions Limitations)
The Mix Tank and Centrifuge are not subject to the requirements of 326 IAC 6.8-1-2 because they are not a source of particulate emissions.

326 IAC 6.8-2-6 (Lake County: PM10 Emission Requirements)
The Mix Tank and Centrifuge are not listed in 326 IAC 6.8-2-6. Therefore, 326 IAC 6.8-2-6 does not apply to these units.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
The Mix Tank is not subject to the requirements of 326 IAC 8-9 because this tank is a process tank. 326 IAC 8-9 applies only to storage tanks.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
Although located at a refinery in Lake County, the Mix Tank is not subject to the requirements of 326 IAC 8-4-3 because it is a process tank. 326 IAC 8-4-3 applies only to storage tanks with capacities greater than 39,000 gallons.

State Rule Applicability – Boiler C-1

326 IAC 6.8-1-2 (Particulate Emission Limitations)
Boiler C-1 is subject to the requirements of 326 IAC 6.8-1-2 because this boiler is not listed in 326 IAC 6.8-2 through 326 IAC 6.8-11 and the Whiting refinery has potential particulate emissions that exceed 100 tons per year. The following limit has been included in the permit:

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.

326 IAC 6.8-2-6 (Lake County: PM10 Emission Requirements)
Boiler C-1 is not one of the units listed in 326 IAC 6.8-2-6. Therefore, 326 IAC 6.8-2-6 does not apply to the boiler.

326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)
Boiler C-1 is not subject to the requirements of 326 IAC 7-1.1-2 because the potential to emit sulfur dioxide is less than 25 tons per year and 10 pounds per hour.

326 IAC 7-4.1-1 (Lake County Sulfur Dioxide Emission Limitations)
Boiler C-1 is not subject to the requirements of 326 IAC 7-4.1-1 because this rule applies only to combustion units that are subject to 326 IAC 7-1.1.

326 IAC 7-4.1-3 (BP Products North America, Inc. Sulfur Dioxide Emission Limitations)
Boiler C-1 is not one of the emission units listed in 326 IAC 7-4.1-3. Therefore, 326 IAC 7-4.1-3 does not apply to this boiler.

State Rule Applicability – Pump and Compressor Internal Combustion Engines

326 IAC 6.8-2-6 (Lake County: PM10 Emission Requirements)
The pump (J-1) and compressor (J-2) internal combustion engines are not listed in 326 IAC 6.8-2-6. Therefore, 326 IAC 6.8-2-6 does not apply to these units.

326 IAC 6.8-1-2 (Particulate Emission Limitations)
The pump (J-1) and compressor (J-2) internal combustion engines are subject to the requirements of 326 IAC 6.8-1-2 because these units are not listed in 326 IAC 6.8-2 through 326 IAC 6.8-11 and the Whiting refinery has potential particulate emissions that exceed 100 tons per year. The following limit has been included in the permit:

Pursuant to 326 IAC 6.8-1-2(a), the particulate matter emissions from the pump engine (J-1) and the compressor engine (J-2) shall be each limited to 0.03 grains per dry standard cubic foot.

326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)

The pump (J-1) and compressor (J-2) internal combustion engines are not subject to the requirements of 326 IAC 7-1.1-2 because the potential to emit sulfur dioxide from each of these units is less than 25 tons per year and 10 pounds per hour.

326 IAC 7-4.1-1 (Lake County Sulfur Dioxide Emission Limitations)

The pump (J-1) and compressor (J-2) internal combustion engines are not subject to the requirements of 326 IAC 7-4.1-1 because this rule applies only to combustion units that are subject to 326 IAC 7-1.1.

326 IAC 7-4.1-3 (BP Products North America, Inc. Sulfur Dioxide Emission Limitations)

The pump (J-1) and compressor (J-2) internal combustion engines are not listed in 326 IAC 7-4.1-3. Therefore, 326 IAC 7-4.1-3 does not apply to these engines.

State Rule Applicability – Storage Tanks TK-1, TK-2, and TK-3

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Storage tanks TK-1, TK-2, and TK-3 are subject to the requirements of 326 IAC 8-9 because they will be installed in Lake County and are not subject to 40 CFR 60, Subpart Kb. Pursuant to 326 IAC 8-9-1(b), storage vessels that have storage capacities less than 39,000 gallons are subject only to the reporting and record keeping provisions in 326 IAC 8-9-6(a) and (b), and are exempt from all other provisions of this rule. The following requirements have been included in the permit:

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 storage tanks TK-1, TK-2, and TK-3:

(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.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

Although located at a refinery in Lake County, storage tanks TK-1, TK-2, and TK-3 are not subject to the requirements of 326 IAC 8-4-3 because they have storage capacities less than the 39,000 gallon applicability threshold.

State Rule Applicability – Equipment Leaks from Various System Components

326 IAC 8-4-8 (Leaks from Petroleum Refineries)

The Tank Cleaning Facility will consist of a number of components from which fugitive VOC and HAP emissions may occur through equipment leaks. These components include various pumps, valves, connectors and piping and are subject to the requirements of 326 IAC 8-4-8 because the Tank Cleaning Facility will be located at a refinery in Lake County. However, equipment leaks from this type of equipment are also subject to the requirements of 40 CFR 63, Subpart CC, which requires the source to monitor and control equipment leaks by following a Leak Detection and Repair (LDAR) Plan. Therefore, BP will comply with 326 IAC 8-4-8 by complying with their existing LDAR Plan. BP's LDAR Plan is included in Appendix A of the permit.

Stack Testing Requirements

No stack testing is required for the tank cleaning facility because the source will maintain records of the number of hours of operation of the tank cleaning facility in order to demonstrate compliance with the 326 IAC 2-2, 326 IAC 2-3, and 326 IAC 8-1-6.

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.

There are no Compliance Determination Requirements applicable to this modification.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Minor Source Modification to a Title V not yet No. 089-23177-00453. The staff recommend to the Commissioner that this Minor Source Modification be approved.

Appendix A: Emissions Calculations
Boiler C-1

Company Name: **BP Products North America, Inc., Whiting Business Unit**
Address, City IN Zip: **2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710**
Permit Number: **089-23177**
Plt ID: **089-00453**
Reviewer: **ERG/AAB**
Date: **20-Jun-06**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.5
5.02	320.99	

	Pollutant					
	PM*	PM10	SO_2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	3.3	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	0.32	0.53	11.4	3.21	0.05	0.80
Limited PTE in (tons/yr) (Max. Operating Rate 2513 hrs/yr)	0.09	0.15	3.27	0.92	0.016	0.23

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 137,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Potential to Emit (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal)/2,000 lb/ton

See page 2 for HAPs emission calculations.

Appendix A: Emissions Calculations
Boiler C-1
HAP Emissions

Company Name: **BP Products North America, Inc., Whiting Business Unit**
Address, City IN Zip: **2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710**
Permit Number: **089-23177**
Plt ID: **089-00453**
Reviewer: **ERG/AAB**
Date: **20-Jun-06**

	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/MMBtu	4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr	8.80E-05	6.60E-05	6.60E-05	6.60E-05	1.98E-04

	HAPs - Metals (continued)			
	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/MMBtu	3.0E-06	6.0E-06	3.0E-06	1.5E-05
Potential Emission in tons/yr	6.60E-05	1.32E-04	6.60E-05	3.30E-04

Methodology

No data was available in AP-42 for organic HAPs.
Potential to Emit (tons/year) = Heat Input Capacity (MMBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton
Emission factors are from AP-42, Table 1.3-10, Supplement E (9/98).

Appendix A: Emission Calculations
Diesel-Fired Process Pump

Company Name: **BP Products North America, Inc., Whiting Business Unit**
Address City IN Zip: **2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710**
Permit Number: **089-23177**
Plt ID: **089-00453**
Reviewer: **ERG/AAB**
Date: **20-Jun-06**

Emissions calculated based on output rating (hp)

Heat Input Capacity Horsepower (hp)	Potential Throughput hp-hr/yr	Limited Throughput hp-hr/yr
100.0	876000	251300

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-h	2.20E-03	2.20E-03	2.05E-03	3.10E-02	2.51E-03	6.68E-03
Potential Emission in tons/yr	0.96	0.96	0.90	13.6	1.10	2.93
Limited PTE in (tons/yr) (Max. Operating Rate 2513 hrs/yr)	0.28	0.28	0.26	3.90	0.32	0.84

Methodology

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Througput (hp-hr/yr) = hp * 2513 hr/yr
Emission factors are from AP42 (Supplement B 10/96), Table 3.3-1
Potential to Emit (tons/yr) = [Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factor is assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Appendix A: Emission Calculations
Diesel-Fired Compressor

Company Name: **BP Products North America, Inc., Whiting Business Unit**
Address City IN Zip: **2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710**
Permit Number: **089-23177**
Plt ID: **089-00453**
Reviewer: **ERG/AAB**
Date: **20-Jun-06**

Emissions calculated based on output rating (hp)

Heat Input Capacity Horsepower (hp)	Potential Throughput hp-hr/yr	Limited Throughput hp-hr/yr
120.0	1051200	301560

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-h	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	1.16	1.16	1.08	16.3	1.32	3.51
Limited PTE in (tons/yr) (Max. Operating Rate 2513 hrs/yr)	0.33	0.33	0.31	4.67	0.38	1.01

Methodology

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Througput (hp-hr/yr) = hp * 2513 hr/yr
Emission factors are from AP42 (Supplement B 10/96), Table 3.3-1
Potential to Emit (tons/yr) = Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / 2,000 lb/ton

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Appendix A: Emission Calculations
Fugitive Emissions From the
Tank Cleaning Operation

Company Name: **BP Products North America, Inc., Whiting Business Unit**
Address City IN Zip: **2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710**
Permit Number: **089-23177**
Plt ID: **089-00453**
Reviewer: **ERG/AAB**
Date: **20-Jun-06**

Number of valves in liquid service	14
Number of valves in vapor service	1
Number of pump seals	8
Number of connectors in liquid service	69
Number of connectors in vapor service	28

LDAR Effectiveness:*

Valves in liquid service	96 %
Valves in vapor service	95 %
Pumps	88 %
Connectors	81 %

					Leaking (i.e., greater than or equal to 10,000 ppmv) Emission Factor		Non-Leaking (i.e., less than 10,000 ppmv) Emission Factor		Fugitive Emissions without LDAR Plan		Fugitive Emissions with LDAR Plan		Fugitive Emissions with LDAR Plan and 2513 Hours/yr
Component Type	Total Number	Number in Liquid Service	Number in Vapor Service	Percent Leaking	Light Liquid Service Factor (kg/hr-comp.)	Vapor Service Factor (kg/hr-comp.)	Light Liquid Service Factor (kg/hr-comp.)	Vapor Service Factor (kg/hr-comp.)	VOC (lbs/hr)	VOC (tons/yr)	VOC (lbs/hr)	VOC (tons/yr)	VOC (tons/yr)
Valves	15	14	1	1	0.0852	0.2626	0.0017	0.0006	0.09	0.37	0.002	0.008	0.002
Flanges (Connectors)	97	69	28	1	0.0375	0.0375	0.00006	0.00006	0.09	0.41	0.02	0.08	0.02
Pumps	8	8	0	1	0.437		0.012		0.29	1.26	0.03	0.15	0.04
										2.04	0.05	0.24	**0.07**

Notes:

*- values taken from Table 5-3 of U.S. EPA's "Protocol for Equipment Leak Emission Estimates."
The number of connectors may vary depending on the particular configuration needed and the space available near the tank to be cleaned.
Assumed the following number of connectors will be required in the worst case scenario:
2 per pump, 2 per valve, 2 per leg of gas line (plus inlet to oxidizer), and 1 per 10 feet of piping with 150 feet of vapor piping and 250 feet of liquid piping.
Emission factors are from Table 2-6 of the U.S. EPA's "Protocol for equipment Leak Emission Estimates" (11/95)
A "percent leaking rate" of 1% was assumed, consistent with estimates used in the past based on past screening data. Note
that the "leaking rate" assumed by the screening factors in Table 2-6 of the U.S. EPA's protocol is 10,000 ppm versus the lower leak rates
used under the Refinery MACT.

Example Calculation:

PTE for valves (lbs/hr) = [(# Valves (liquid) * EF for Liquid (kg/hr) * percent leaks) +(# Valves (vapor) * EF (Vapor) * (1-percent leaks))] * 2.2 lb/kg

Appendix A: Emission Calculations
Catalytic Oxidizer Controlling Emissions from
Centrifuge, Mix Tank, and Storage Tanks

Company Name: **BP Products North America, Inc., Whiting Business Unit**
Address City IN Zip: **2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710**
Permit Number: **089-23177**
Plt ID: **089-00453**
Reviewer: **ERG/AAB**
Date: **20-Jun-06**

Process Flow Rate	400	scfm
	0.024	MMscf/hr
Stream VOC Content	2200	ppmv
Stream H2S Content	46	ppmv
Combustion Gas Flow Rate	5.28E-05	MMcf/hr
Oxidizer Efficiency	90	%
Molar Volume	22.41	L/mol
VOC Molar Weight	130	
SO2 Molar Weight	64.06	
Conversion Factors	28.32	L/cf
	0.0022	lb/g

	NO_x	CO	PM	PM10	VOC	SO_2
Emission Factors (lb/MMcf)	100	84	1.9	7.6	NA	NA
PTE (lbs/hr)	0.01	0.004	0.0001	0.0004	19.1	0.20
PTE (tons/yr)	0.02	0.02	0.0004	0.002	83.6	0.86
Limited PTE @ 2513 hrs/yr (tons/yr)	0.007	0.005	0.0001	0.0005	24.0	0.24
Limited After Control Emissions (tons/yr)	NA	NA	NA	NA	2.40	NA

Methodology:
For NO_x, PM, PM10 and CO calculations:

$$\text{PTE (lbs/hr)} = \frac{0.024 \text{ MMscf}}{\text{hr}} \times \frac{2200 \text{ MMscf fuel}}{1\text{x}10^6 \text{ MMscf gas}} \times \frac{\text{EF lbs}}{\text{MMscf fuel}}$$

(Where EF is the emission factor)

For VOC and SO_2 calculations:

$$\text{PTE before controls (lbs/hr)} = \frac{400 \text{ scfm gas}}{} \times \frac{2200 \text{ scfm VOC}}{1\text{x}10^6 \text{ scf gas}} \times \frac{130 \text{ g/mol}}{22.41 \text{ L/mol}} \times \frac{28.32 \text{ L}}{\text{cf VOC}} \times \frac{0.0022 \text{ lb}}{\text{g}} \times \frac{60 \text{ min}}{\text{hr}}$$

Emission factors for Nox, CO, PM, and PM10 are from AP-42, Section 1.4, tables 1.4-1 and 1.4-2 (7/98)
These calculations assume that the tank cleaning system is operated at its maximum capacity and generates a waste stream with the maximum VOC and H_2S content.
The H_2S content of the waste stream is conservatively assumed to be equivalent to that of refinery fuel gas.
The calculations assume a conservative control efficiency for the oxidizer of 90%.

Appendix A: Emissions Calculations
Summary

Company Name: BP Products North America, Inc., Whiting Business Unit
Address, City IN Zip: 2815 Indianapolis Boulevard, Whiting, Indiana 46394-0710
Permit Number: 089-23177
Plt ID: 089-00453
Reviewer: ERG/AAB
Date: 20-Jun-06

PTE Before Controls and Limitations:

Emission Unit (I.D.)	PM (tons/yr)	PM10 (tons/yr)	SO_2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Single HAP (tons/yr)	Total HAP (tons/yr)
Boiler (C-1)	0.32	0.53	11.4	3.2	0.05	0.80	negligible	negligible
Compressor (J-2)	1.16	1.16	1.08	16.29	1.32	3.51	negligible	negligible
Pump (J-1)	0.96	0.96	0.90	13.58	1.1	2.93	negligible	negligible
Storage Tanks (TK-1, TK-2, and TK-3), Mix Tank, and Centrifuge	0	0	0	0	83.6	0	Less than 83.7	Less than 83.7
Equipment Leaks	0	0	0	0	2.04	0	less than 1.85	Less than 1.85
Total	2.44	2.65	13.4	33.1	86.1	7.24	Less than 85.6	Less than 85.6

PTE After Controls and Limits:

Emission Unit (I.D.)	PM (tons/yr)	PM10 (tons/yr)	SO_2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Single HAP (tons/yr)	Total HAP (tons/yr)
Boiler (C-1)	0.09	0.15	3.22	0.91	0.02	0.23	negligible	negligible
Compressor (J-2)	0.33	0.33	0.3	4.6	0.38	0.99	negligible	negligible
Pump (J-1)	0.27	0.27	0.25	3.83	0.32	0.83	negligible	negligible
Storage Tanks (TK-1, TK-2, and TK-3), Mix Tank, and Centrifuge and Oxidizer	0.0001	0.0005	0.24	0.007	2.4	0.005	Less than 2.4	Less than 2.4
Equipment Leaks	0	0	0	0	0.07	0	Less than 0.07	Less than 0.07
Total	0.69	0.75	4.01	9.35	3.2	2.06	Less than 2.5	Less than 2.5

BP Products North America Inc.
Whiting Business Unit
Whiting, Indiana

Appendix A to Minor Source Modification No.: 089-23177-00453
Leak Detection and Repair (LDAR) Plan

Maintained by the Whiting Business Unit Environmental Staff

BP Whiting Refinery
Leak Detection and Repair Program

1.0 Introduction and Program Purpose

BP Products North America operates an oil refining complex, Whiting Business Unit, located in three municipalities in Northwest Indiana; Whiting, Hammond and East Chicago. This facility is required by both state and Federal regulations to implement a leak detection and repair (LDAR) program to reduce volatile organic chemical emissions from equipment leaks.

1.1 Program Purpose

The purpose of this document is to detail procedures comprising of the BP Whiting LDAR program. The LDAR Plan is designed to provide an understanding of the various LDAR requirements and to document the reasons for and procedures used to implement this program.

A principal purpose of the LDAR program at BP Whiting is to reduce the emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) from fugitive sources at the refinery. This serves two purposes: 1) it contributes to attainment and maintenance of clean air standards for the protection of public health and welfare, and 2) it reduces the loss of valuable product or intermediate streams. To that end, the company is committed to reducing or eliminating the leaks from these sources.

1.2 Refinery-Wide Leak Goal

BP Whiting has established an overall leak rate goal of no greater than 2% of all monitored components based on the regulatory leak definition of 10,000 parts per million (ppm). This will be achieved on a process unit-by-process unit basis through the implementation of the LDAR program outlined in this plan.

2.0 LDAR Regulations and Applicability

The following state and Federal regulations related to fugitive equipment leaks and leak detection and repair (LDAR) programs apply to various portions of the BP Whiting refinery:

- **326 IAC 8-4-8. Leaks from Petroleum Refineries; Monitoring; Reports**
- **40 CFR 63, Subpart CC. National Emission Standard for Hazardous Air Pollutants for Petroleum Refineries**
    - Rule References LDAR Requirements of 40 CFR 60, Subpart VV

- **40 CFR 60, Subpart GGG. Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries**
  - Rule References LDAR Requirements of 40 CFR 60, Subpart VV

- **40 CFR 61, Subpart J. National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene**
  - Rule References LDAR Requirements of 40 CFR 61, Subpart V

Note that in addition to the state and Federal regulations listed above, Part V, Paragraph 20 of the Consent Decree (Civil No. 2:96 CV 095 RL, entered on August 28, 2001) includes LDAR provisions that may be more stringent than Federal and state standards provided in the above listed regulations. However, the Consent Decree requirements may be terminated according to the requirements and provisions of Part XVII of the Consent Decree. All LDAR standards and requirements included in this LDAR Plan that are based solely on the Consent Decree are clearly identified with its less stringent state or Federal counterpart. In the event of termination of the Consent Decree and/or Paragraph 20, a subset of the Consent Decree that includes LDAR requirements, the listed state and Federal standards and requirements will still apply.

Applicable state and Federal regulations are described in more detail in the following sections.

2.1 326 IAC 8-4-8. Leaks from Petroleum Refineries; Monitoring; Reports

The Indiana State Implementation Program (SIP) applicable to Lake County fugitive VOC emissions from petroleum refineries is defined in 326 IAC 8-4-8. The program provides emissions standards and requires monitoring of any fugitive emission components in VOC service, where VOC is defined as any organic material that participates in atmospheric photochemical reactions to form ozone. Excluded from the program are compounds listed in 326 IAC 1-2-48, material less than 0.5 RVP, gaseous streams operating with more than 50% hydrogen by volume and any streams operating with more than 50% non-photochemically reactive hydrocarbon as defined in 326 IAC 1-2-48.

Indiana LDAR applies to the BP Whiting refinery as provided in the “Amoco Whiting Refinery VOC Leak Monitoring Program”, which was submitted to the Indiana Department of Environmental Management (IDEM) on March 17, 1995. Broadly, the program requires annual monitoring of all pump seals and pipeline valves in light liquid VOC service and annual monitoring of all compressor seals pipeline valves, and pressure relief devices in gaseous VOC service. Any component in gaseous service that is found to be leaking must be monitored for

two successive quarters. Weekly visual monitoring of all pump seals, and monitoring of relief valves within twenty-four hours after venting to the atmosphere is also required.

2.2 40 CFR 63, Subpart CC. National Emission Standard for Hazardous Air Pollutants for Petroleum Refineries

The provisions of 40 CFR 63, Subpart CC, also called the Refinery MACT, applies to fugitive emissions from equipment that is in hazardous air pollutant (HAP) service (i.e., process fluid with at least 5% HAP concentration, by weight) for 300 or more hours during a calendar year. Potentially affected equipment includes pumps, compressors, agitators, connectors, valves, sampling connection systems, surge accumulator vessels, bottoms receivers, pressure relief devices, open-ended valves or lines, and instrumentation systems.

Inspection and monitoring requirements provided in the Refinery MACT are specific to the phase state of the HAP for both gas/vapor and light liquid. When equipment is in gas/vapor service, it contains a gas or vapor at operating conditions. When equipment is in light liquid service it is a light liquid process fluid at the operating conditions. BP Whiting is not required to monitor equipment in heavy liquid service, unless there are indications of a leak. To be affected by Refinery MACT, the process fluid must contain at least 5% by weight of one or more of the subset of HAPs listed in the Refinery MACT rule and identified below.

Refinery MACT HAPs

Benzene	Ethylene glycol
Biphenyl	Methanol
1,3 Butadiene	Methyl ethyl ketone (2-butanone)
Carbon disulfide	Methyl isobutyl ketone (hexone)
Carbonyl sulfide	Methyl tert-butyl ether
Cresol (mixed isomers)	Naphthalene
m-Cresol	Phenol
o-Cresol	Toluene
p-Cresol	2,2,4 Trimethylpentane
Cumene	Xylene (mixed isomers)
1,2 Dibromoethane (ethylene dibromide)	m-Xylene
1,2 Dichloroethane	o-Xylene
Diethanolamine	p-Xylene
Ethyl benzene	Hexane

Based on BP Whiting's Refinery MACT applicability review, all streams categorized as "light liquid (LL) contains >5% HAPs and are therefore subject to the Subpart CC LDAR requirements. There are two options from which a refinery can choose to comply with the Refinery MACT LDAR requirements; the New Source Performance Standard (NSPS) option or the modified Hazardous Organic NESHAP (HON) option. BP Whiting Refinery complies with the NSPS option, which requires compliance with the LDAR requirements of 40 CFR 60, Subpart GGG, which in turn references procedures provided in 40 CFR Part 60, Subpart VV.

Process units that are affected by the provisions of Refinery MACT are clearly identified in the BP Whiting Title V operating permit.

2.3 40 CFR 60, Subpart GGG. Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

The NSPS for the Performance of Equipment Leaks of VOC in Petroleum Refineries establishes air emission standards for specific source categories that began construction or modification after January 4, 1983, and which are in VOC service or a material that contains or contacts a process fluid that is at least 10% VOC by weight. In the NSPS, VOC is defined as any organic compound which participates in atmospheric photochemical reaction or which is measured by a reference method, an equivalent reference method, an alternative method, or which is determined by procedures specified under any rule. 40 CFR 60, Subpart GGG gives refineries an alternative means to determine light liquids (>10% evaporated at 302 °F) and also exempts compressors in hydrogen service (50% H_2 by volume) from the standards.

Note that, like the Refinery MACT, compliance with 40 CFR 60, Subpart GGG requires monitoring of fugitive emissions sources in accordance with the procedures provided in 40 CFR Part 60, Subpart VV. Therefore, aside from applicability provisions, the LDAR requirements associated with 40 CFR 60, Subpart GGG are identical to those provided in the Refinery MACT. Process units that are affected by the provisions of 40 CFR 60, Subpart GGG are clearly identified in the BP Whiting Title V Operating permit.

2.4 40 CFR 61, Subpart J. National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene

National Standards for Equipment Leaks (Fugitive Emissions Sources) of Benzene. The LUF/Benzene Stream is the only stream in the Refinery that contains greater than 10% benzene and is subject to the monitoring requirements of Subpart J. Process units that are affected by the provisions of 40 CFR 61, Subpart J are clearly identified in the BP Whiting Title V Operating permit.

2.5 Consent Decree (Civil No. 2:96 CV 095 RL)

Note that in addition to the state and Federal regulations listed above, Part V, Paragraph 20 of the Consent Decree (Civil No. 2:96 CV 095 RL, entered on August 28, 2001) includes LDAR provisions that may be more stringent than Federal and state standards provided in the above listed regulations. The LDAR requirements in the Consent Decree apply specifically to valves and pumps in that are in VOC or HAP service, as defined in the NSPS and Refinery MACT rules. Therefore, Consent Decree requirements apply to the same sources affected by 40 CFR 60, Subpart GGG and the Refinery MACT, as provided above.

However, Consent Decree requirements may be terminated according to the requirements and provisions of Part XVII (Paragraph 86, Section C) of the Consent Decree, which states:

> *"For Paragraphs 19 (BWN) and 20 (LDAR). No earlier than December 31, 2008, for any facility covered by this Consent Decree provided that separately with respect to Paragraph 19 and Paragraph 20: 1) the defendant has demonstrated substantial compliance with the programs of the Paragraph for which the defendant is certifying compliance; and 2) all stipulated penalties due with respect to the Paragraph that the defendant is certifying compliance have been paid."*

To avoid confusion in the event of the termination of Consent Decree LDAR requirements, standards and requirements included in this LDAR Plan that are based solely on the Consent Decree are clearly identified with its less stringent state or Federal counterpart. In the event of termination of the Paragraph 20 of the Consent Decree, the listed state and Federal standards and requirements will remain in effect.

3.0 Process Stream Composition Determination

Only process streams with the potential of significant volatile organic concentration are considered for applicability to the potentially applicable LDAR requirements. Streams with no potential of applicability such as cooling water, steam, steam condensate, natural gas, nitrogen, utility water, and instrument air are not considered for monitoring purposes. The applicability to other refinery streams and designation of process stream composition as light liquid versus heavy liquid is based on lab data, material balances, or engineering judgement.

4.0 Gas/Vapor, Light Liquid, Heavy Liquid, and Hydrogen Service Designations

Affected fugitive leak equipment is divided into four categories based on the material service for the purposes of defining monitoring frequency and leak definition for specific pieces of equipment. The four categories are gas/vapor service, light liquid service, heavy liquid service, and in hydrogen service (only for compressors).

1. Gas/vapor service is defined as a piece of equipment that contains or contacts process fluid in the gaseous state at the operating conditions.

2. Light Liquid service is defined as a piece of equipment that contains or is in contact with a process fluid that meets all of the following criteria:

   a. The process fluid is a liquid at the operating conditions
   b. The percent evaporation is greater than 10 percent at 302 °F.

3. Heavy Liquid service means that the piece of equipment contains or contacts a petroleum process fluid that is not in gas/vapor service or light liquid service.

4. In Hydrogen Service refers to streams that are >50% by volume Hydrogen. This designation exempts compressors from LDAR requirements. Note that this exemption applies only to compressors, and not to other components that may be located on the stream.

The summary of the classification system to determine the applicable requirements of the LDAR program to a process stream can be summarized as follows:

	VOC Concentration in the Process Stream	
Process State	**<10% VOC by Weight**	**>10% VOC by Weight**
Gas/ Vapor	No LDAR Requirements	Gas/Vapor LDAR Requirements
Liquid	No LDAR Requirements	***<10% evaporation at 302°F*** Heavy Liquid LDAR Requirements ***<10% evaporation at 302°F*** Light Liquid LDAR Requirements

5.0 Affected Equipment – Field Tagging and LDAR Database

BP Whiting has identified all affected valves and pumps that are in either VOC service, as defined in 40 CFR 60, Subpart GGG, or in HAP service as defined in 40 CFR 63, Subpart CC, and therefore affected by the BP Whiting LDAR program. Each piece of affected equipment is identified in the field with stainless steel stamped tag with a unique identification number. If an Environmental Technician discovers a component with the permanent tag missing, a new tag will be hung on the component. At the time of the finalization of this version of the LDAR Plan, the "affected equipment" inventory housed in LEADERS included this information for approximately 70,000 components.

Records of the unique tag numbers are housed in the BP Whiting LDAR database (LEADERS), along with a description of the component type, material service, and location. The LEADERS database also retains calibration, monitoring, and repair records, as detailed in Section 9.0 of this LDAR Plan.

6.0 Equipment-Specific Leak Definitions

The following table summarizes BP Whiting Leak Definitions. Note that Consent Decree standards that are more stringent that applicable state and/or Federal regulations are identified and listed in italicized text, with the corresponding state and/or Federal regulation following in parentheses. Upon termination of the LDAR requirements of Paragraph 20 of the Consent Decree (as described in Section 2.5 of this LDAR Plan), BP Whiting will no longer be required to meet the more stringent standards, and but will continue to be subject to the corresponding state and/or Federal standard.

Equipment	Gas/ Vapor Service	Light Liquid	Heavy Liquid
Pumps[6]	N/A	Indications of liquid drippings from seal. ***Consent Decree:*** *Instrument reading of 10,000 ppm.* (state/Federal: Instrument reading of 10,000 ppm.)	Instrument reading of 10,000 ppm on visual, audible, or olfactory leaks
Valves	***Consent Decree:*** *Instrument reading of 500 ppm or over. First attempt at repair at reading of 100 ppm.* (state/Federal: Instrument reading of 10,000 ppm.)	***Consent Decree:*** *Instrument reading of 500 ppm or over. First attempt at repair at reading of 100 ppm.* (state/Federal: Instrument reading of 10,000 ppm.)	Instrument reading of 10,000 ppm on visual, audible, or olfactory leaks
Pressure Relief Devices (PRDs)[3]	Instrument reading of 500 PPM.	Instrument reading of 10,000 PPM	Instrument reading of 10,000 ppm on visual, audible, or olfactory leaks
Compressors[5]	Monitor reading of 10,000 PPM.	N/A	N/A
Flange or connectors	Instrument reading of 10,000 ppm on visual, audible, or olfactory leaks	Instrument reading of 10,000 ppm on visual, audible, or olfactory leaks	Instrument reading of 10,000 ppm on visual, audible, or olfactory leaks

[6]Pumps with no external shaft and valves with no external stem can be designated for no detectable emissions if an annual compliance test yields an instrument reading of less than 500 ppm above background.
[3] PRDs in gas/vapor service, that are part of closed vent system, are not subject to monitoring.
[5] Compressors that are vented to a control device through a closed system of piping are not subject to monitoring. Compressors in hydrogen service are exempt from meeting LDAR standards (40 CFR 60, Subpart GGG).

Equipment	Gas/ Vapor Service	Light Liquid	Heavy Liquid
Closed Vent System	Instrument reading of 500 PPM.	N/A	N/A
Components Designated as No Detectable Emission (e.g. check valves, closed vent systems, etc.)	Instrument reading of 500 PPM.	Instrument reading of 500 PPM.	N/A

7.0 Monitoring Frequencies and Procedures

7.1 Monitoring Frequencies

The following table summarizes the equipment specific monitoring requirements for the BP Whiting LDAR program.

Equipment	Gas/Vapor Service	Light Liquid Service	Heavy Liquid Service
Pumps[6]	N/A	Monitored Monthly Weekly Visual Inspection	Monitor within 5 days after evidence of leak
Valves[4]	Monthly/Quarterly	Monthly/Quarterly	Monitor within 5 days after evidence of leak
Pressure Relief Devices (PRDs)[3]	Designed for no detectable emissions. Monitor no later than 24 hours after pressure release	Monitor within 5 days after evidence of leak	Monitor within 5 days after evidence of leak
Compressors[5]	Equipped with a seal that has a barrier fluid and sensor. Monitored Annually.	N/A	N/A
Sampling Connection System	Equipped with closed purge/vent system	Equipped with closed purge/vent system	Equipped with closed purge/vent system

[6] Pumps with no external shaft and valves with no external stem can be designated for no detectable emissions if an annual compliance test yields an instrument reading of less than 500 ppm above background. These are for MACT pumps subject to NSPS or MACT.
[4] Repaired valves in light liquid or gaseous/vapor service require repeat inspection for two consecutive months following the repair. Otherwise, valves may be monitored quarterly. Valves more than six feet (6') above a support can be designated as difficult to monitor and can be monitored once per year.
[3] PRDs in gas/vapor service, that are part of closed vent system, are not subject to monitoring.
[5] Compressors that are vented to a control device through a closed system of piping are not subject to monitoring. Compressors in hydrogen service are exempt from meeting LDAR standards (NSPS Subpart GGG).

Equipment	Gas/Vapor Service	Light Liquid Service	Heavy Liquid Service
Flange or connectors	Monitor within 5 days after evidence of leak	Monitor within 5 days after evidence of leak	Monitor within 5 days after evidence of leak
Closed Vent System	Designed for no detectable emissions. Monitored annually/visually inspected annually	N/A	N/A
Components designated as No Detectable Emissions (e.g. check valves, closed vent systems, etc.)	Upon designation and annually	Upon designation and annually	Upon designation and annually

7.1.1 Skip Period Monitoring of Valves (Consent Decree Requirement)

Part V, Paragraph 20, Section H of the Consent Decree provides the requirements to implement more frequent monitoring of all valves by choosing one of the following options on a process unit by process unit basis:

- Quarterly monitoring with no ability to skip periods
- Sustainable skip period program defined in Appendix H of the Decree.

BP Whiting has chosen to implement the quarterly monitoring program by January 18, 2003. Note that upon termination of the LDAR requirements of Paragraph 20, (as described in Section 2.5 of this LDAR Plan), BP Whiting will no longer be required to implement more frequent monitoring of valves than the requirements of the applicable state and/or Federal regulations.

7.1.2 Difficult To Monitor (DTM) Components

Difficult to monitor (DTM) components are defined in the Refinery LDAR program when the operator demonstrates that the component cannot be monitored without elevating the

monitoring personnel more than 6 feet above a support surface. DTM components will be monitored once per year utilizing specialized lift equipment.

7.1.3 Unsafe To Monitor (UTM) Components

Components that are designated as Unsafe-to-Monitor (UTM) are monitored as frequently as practicable during safe-to-monitor periods, but not more frequently that the periodic monitoring schedule as provided in Section 7.1 would require. To qualify as a UTM component, the equipment must meet at least one of the following qualification criteria:

- Component can not be safely monitored in compliance with OSHA Standard 29 CFR 1926, Subpart M "Safety Standards for Fall Protection". The use of stepladders or extension ladders from platforms or scaffolds for monitoring purposes is deemed unsafe and will not be employed.[1]

- Component for which personnel would be exposed to ambient or equipment temperature extremes in excess of 300° F during monitoring

- Pressure Relief Devices (PRDs) that are not equipped with an accessible weep holes at which a reading can safely be taken.

- Component for which the operator demonstrates that the components cannot reasonably be monitored without exposing monitoring personnel to immediate danger.

7.2 Monitoring Procedures

BP Whiting maintains a staff of BP employees, called Environmental Technicians, who are responsible for the monitoring of components according to the procedures provided in this LDAR Plan. Environmental Technicians responsibilities include screening of all identified individual pieces of equipment for leaks. All instrument-based monitoring is conducted according to the U.S. EPA Method 21 procedures.

7.2.1 Equipment Calibration

[1] Components located outside battery limits (OSBL) in areas where an ignition or explosion hazard does not exist, monitoring personnel may use ladders in compliance with OSHA Standard 29 CFR 1926, Subpart M or a condor lift for access during monitoring.

Monitoring is conducted using a portable hydrocarbon detection device, Foxboro model TVA-1000B. The analyser is subject to performance evaluation requirements specified in U.S. EPA Method 21. Before any Method 21 monitoring of components may begin, the monitoring device must be calibrated and the calibration results must be recorded.

Start-up calibration is conducted according to the manufacturer's recommendations. After the appropriate warm-up period, the zero gas and calibration gas is introduced into the instrument sample probe. The instrument readout is adjusted to correspond to the calibration gas value. If the meter readout cannot be adjusted to the proper value, a malfunction of the analyzer is indicated and corrective actions are taken by the Environmental Technician(s).

Environmental Technician(s) document the results of all monitoring instrument calibrations in the LEADERS software prior to commencing monitoring procedures. Records in LEADERS include corrective actions taken by Environmental Technicians in response to monitoring equipment malfunctions, if applicable.

7.2.2 Method 21 Procedures

Once the analyzer has been properly calibrated for use, monitoring of individual components may begin. Monitoring procedures outlined in EPA Method 21 are followed. The analyzer's probe inlet is placed at the surface of the potential leak interface where leakage could occur. The potential leak interface is the boundary between the process fluid and the atmosphere. For equipment with no moving parts at the leak interface, the probe should be placed directly on the leak interface. For equipment with moving parts, the probe should be placed approximately one (1) centimeter from the leak interface. Care must be taken to ensure that the probe is held perpendicular to the potential leak interface; otherwise, inaccurate readings may result. The probe must be moved along the interface boundary while observing the instrument readout. If an increased meter reading is observed, the probe is slowly moved along the interface where concentrations register until the maximum reading is obtained. The probe inlet should be left at this maximum reading location for at least two times the instrument response time. The time spent monitoring each component, regardless of leak status, will equal two times the response time of the instrument used.

The maximum instrument reading is recorded as the component screening value. If a component has more than one potential leak interface that should be monitored (e.g., the valve packing and bonnet areas), the highest of the instrument readings for the entire component is recorded. Each component high reading will be logged into the TVA and readings associated with detected leaks will be logged into the datalogger device in the field before moving to the next component. The only exception to this is when hazardous conditions exist that make it

unsafe to enter each reading before another component is monitored. An example of this situation is when technicians are monitoring from a ladder or while climbing in pipe alleys. In these cases, monitoring technicians may monitor several components in a row before safe conditions allow for them to enter results into datalogger.

Care should be taken to avoid fouling the sample probe with grease, dust, or liquids. Some fouling is unavoidable, so it is recommended that the probe tip filter be cleaned at least daily and any other filters on a weekly basis. Normally, tapping these filters lightly on a tabletop is sufficient, but if the deposits are wet and caked on, they should be washed with an aqueous solution of soap and alcohol. This solution also can be used to wash the probe and transfer line periodically. Care should be taken to blow the equipment dry before reuse. If the probe tip comes in contact with the liquid during component monitoring, immediately move the probe away from the liquid to stop the instrument pump from sucking liquids any deeper into the analyzer than it already has, and causing damage to the analyzer. Remove the sample tube assembly and clean all sample lines and filters before placing the analyzer back into service.

Each monitoring device displays a screening value in units of parts per million (ppm) that is an indication of the concentration of any leaking material at the leak interface. If the screening value is greater than the value regulations allow, a leak is indicated.

7.2.2.1 Valves

For valves, the most common source of leaks is at the seal between the stem and housing. To screen this source, the probe opening is placed where the stem exits the packing gland and is moved around the stem circumference. The maximum reading is recorded as the screening value. Also, the probe is placed in the packing gland to take up connector seat, and is moved along the periphery. In addition, valve housings of multipart assemblies should be screened at the surface of all points where leaks could occur (e.g., valve bonnet area).

7.2.2.2 Flanges and Connectors

For flanges, the probe opening is placed at the outer edge of the flange-gasket interface and the circumference of the flange is sampled. For screwed connectors, the threaded connection interface must also be screened around the circumference. A connector such as a tee includes three components and should be monitored and recorded individually.

7.2.2.3 Pumps, Compressors and Agitators

Pumps, compressors and agitators are screened with a circumferential traverse at the outer surface shaft and seal interface where the shaft exits the housing. If the source is a rotating shaft, the probe inlet is positioned within one centimeter of the shaft-seal interface. If the housing configuration prevents a complete traverse of the shaft periphery, all accessible portions must be sampled. All other joints on the pump or compressor housing where leakage could occur should also be sampled.

7.2.2.4 Pressure Relief Devices

The configuration of most pressure relief devices prevents sampling at the sealing seat. Because of their design and function, pressure relief devices must be approached with extreme caution. These devices should not be approached during periods of process upsets, or other times when the device is likely to activate. Similarly, care must be used in screening pressure relief devices to avoid interfering with the working parts of the device. For those devices equipped with an enclosed extension, the probe inlet is placed at approximately the center of weep hole of the exhaust point. It should be noted that personnel conducting the screening should be careful not to place hands, arms, or any parts of the body in the discharge piping area. Pressure Relief Devices that are not equipped with a weep hole to allow for safe screening are considered unsafe to monitor.

8.0 Tagging and Repair of Leaks

8.1 Leak Tagging

When a leak is detected above any applicable standard (See Section 6.0), a weatherproof and readily visible identification tag, marked with the equipment ID number, the date of initial leak detection, and the ppm reading is immediately attached to the leaking equipment. Identified leaks are tagged as follows:

- Leaks – Blue Tags
- Delay of Repair – Green Tags

For leaks on valves, the leak tag shall be left on the component after it is repaired until the unit has had two consecutive months of instrument-based monitoring with detected emissions below the leak definition. For all other affected equipment, the leak tag may be removed immediately following leak repair.

8.2 Regulatory Leak Repair

When a regulatory leak (i.e., leak detected above the applicable state and/or Federal standard) has been detected at any affected component, a first attempt at repair is made within 5 calendar days. This attempt can include tightening of bonnet bolts, replacement of bonnet bolts, tightening of packing gland nuts, injection of lubricant into lubricated packing, tightening of flange connections, installation of plugs, repairs to screwed connections, replacement of gaskets, and other techniques.

Environmental Technicians will have primary responsibility for the plugging of open-ended lines and valves when possible, and for making an initial attempt to repair leaking block valves that are 4 inches or less by tightening the packing gland. All control valves, pumps, and other pieces of equipment are to be repaired by Maintenance Personnel.

For leaks that cannot be repaired on the initial attempt (i.e. Environmental Technician repair efforts), the Technician will notify the LDAR Clerk, who will issue a Leaking Component Report to notify Operations and Maintenance to repair the leaking component. It is then the responsibility of the plant Operations Personnel to have the leak repaired. Final repair of a regulatory leak must be completed within 15 days of initial identification. Delay of Repair provisions, as provided in Section 8.4 of this LDAR Plan, may apply to the unit provided the qualification criteria provided in that section are satisfied.

All leaks, repair attempts, and repair results are documented in the LEADERS database, as detailed in Section 9.0 of this LDAR Plan.

All this information is entered into the database and a daily leak report distributed to the Asset and Maintenance personnel. After a repair attempt has been made, the Asset Personnel will call the field technician to re-monitor the component. All re-monitor information is logged in the LEADERS Database, as described in Section 8.1 of this LDAR Plan. If the repair attempts are unsuccessful, Asset Personnel must decide if the unit qualifies for a “Delay of Repair” as provided in Section 8.4.

8.3 Consent Decree Repair Requirements

In addition to the Regulatory Leak requirements provided above, there are several additional and/or more stringent requirements provided in the Consent Decree, as detailed in the following sections. Note that upon termination of the LDAR requirements of Paragraph 20, (as described in Section 2.5 of this LDAR Plan), BP Whiting will no longer be required to meet these additional Consent Decree repair requirements.

8.3.1 First Attempt at Repairs on Valves

Part V, Paragraph 20, Section G of the Consent Decree provides the additional requirements regarding the first attempt at repair on valves.

Per the Consent Decree, Environmental Technicians shall make a first attempt at repair on any valve that is subject to monitoring and has an instrument reading of greater than 100 ppm (which is less than the Consent Decree leak definition of 500 ppm and the regulatory leak

definition of 10,000 ppm). This requirement only applies to valves for which Environmental Technicians have authorization to make a first attempt at repair, which includes all block valves 4 inches or less and excludes all motor operated or pneumatic control valves.

Each such valve shall be re-monitored immediately following the first attempt at repair to ensure that the leak has not been made worse by the actions. As with regulatory leaks, an initial attempt at repair shall be made within 5 days of detection.

8.3.2 Extraordinary Repair Requirements

Part V, Paragraph 20, Section O.ii of the Consent Decree establishes that BP Whiting shall "undertake extraordinary efforts to fix a leak of greater than 50,000 ppm, rather than put the component of the "delay of repair" list, unless there is a safety or major environmental concern posed by repairing the leak in this matter.

In addition, Part V, Paragraph 20, Section O.iii of the Consent Decree establishes that BP Whiting shall "undertake extraordinary efforts to repair valves and pumps that have been on the 'delay of repair' list for a period of 3 years and leaking at a rate of 10,000 ppm, unless there is a safety or major environmental concern posed by repairing the leak in the manner."

8.4 Delay of Repair

A delay of repair of a component found to be leaking according to the leak definitions provided in state or Federal regulations or the Consent Decree (if applicable) is allowed provided the leaking component meets at least one of the following qualification criteria:

- Repair is technically unfeasible until process unit shutdown. In this instance, repair will occur by end of the next process unit shutdown.

- Equipment is isolated from service and does not remain in VOC service.

- The emissions from material purge from immediate repair are greater than the emission likely to result from delay, and the purge material is collected and destroyed or recovered in an emission control device.

- Repair of a pump requires replacing existing seal design with a dual mechanical seal system, a new system with better performance, or a closed vent system and control device. Repair must be completed within 6 months of leak detection.

- Valve assembly replacement is necessary during shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before supplies were depleted. Next unit shutdown and repair must be completed within 6 months of first shutdown.

If a component qualifies for a delay of repair, the following procedures shall be followed:

- BP Whiting plant personnel will notify the LDAR Clerk of the existence of a component that cannot be repaired immediately within the 15-day repair period.
- Whiting LDAR Clerk will document this information on the Refinery Delayed Leak Repair Report. If repair is delayed because a process unit shutdown is required, the Process Unit Asset Coordinator will complete and sign the bottom portion of the form to document the reason for delay of repair and the estimated date at which repairs will be made.
- Plant maintenance personnel will notify the Refinery LDAR coordinator immediately when these repairs have been completed and the coordinator will close out the Delayed Leak Repair Report. Records of delays of repairs are maintained as outlined in Section 9.0 of this LDAR Plan.

9.0 Recordkeeping Procedures

Records associated with the LDAR Plan are retained for a period of five years, unless otherwise indicated herein.

9.1 LEADERS Database

The majority of LDAR-associated records are retained in the BP Whiting LEADERS database. As provided in Section 5.0 of this LDAR Plan, identification information is retained in LEADERS, including a unique tag number, equipment type, material service, equipment size, and location.

LEADERS also retains records of all instrument-based monitoring events including the date of the monitoring event, the identification number of the tester (i.e., Environmental Technician), the unique tag number of the component(s) monitored, and associated monitor readings for each unique tag number.

In the event of the detection of an equipment leak, LEADERS also retains a record of the date the leak was identified, delay of repair qualification date (if applicable), date of each attempt at repair, leak repair methods utilized, and date of final repair.

A summary of information retained in LEADERS is included in the following bulleted list:

Affected Component Data
- Unique Tag Numbers
- Equipment Type
- Equipment Size
- Component Service (i.e., light liquid, heavy liquid, gas/vapor, or hydrogen)
- Equipment Location

Monitoring Data[*]
- Date of Monitoring Event
- Monitoring Instrument Identification Number
- Monitoring Personnel Identification Number
- Maximum Instrument Reading

[*]Monitoring data is associated with the unique tag number of the component(s) monitored.

Equipment Repair Data[*]
- Date of Leak Detection
- Date of First Attempt to Repair Leak
- Date of Subsequent Repair Attempts (including final, successful repair)
- Repair Attempt Methods
- Reason for Delay if Leak Not Repaired Within Required Period (i.e., 15 or 30 days)
- Monitoring Results (i.e., maximum instrument reading) Immediately Following Repair (or immediately following the determination that the leak qualifies for a "Delay of Repair")

[*]Repair data is associated with the unique tag number of the leaking component.

"Delay of Repair" Information[*]
- Identification of each "Delay of Repair"
- Justification for "Delay of Repair"
- Dates of process unit shutdowns occurring while equipment is repaired.

[*] "Delay of Repair" data is associated with the unique tag number of the leaking component.

9.2 Additional LDAR Records

Other information maintained as part of the LDAR program that are not housed within LEADERS is identified below:

- Results of Weekly Pump Seal Inspections[2]
- P&ID Equipment List
- Copies of Periodic Compliance Reports
- Design Specifications and Performance Demonstrations for Affected Closed Vent Systems and Control Devices (per 40 CFR 63.181(g))
- Active Accessible Components List by Process Unit

10.0 Reporting

10.1 Semiannual Reporting

A semiannual LDAR report is submitted to IDEM, including information specifically required pursuant to 40 CFR Part 60, Subpart GGG and the Refinery MACT. The semiannual LDAR report includes the identification of any valves, pumps, compressors, and inaccessible valves that were monitored, found to be leaking and not repaired. Date(s) of shutdown(s) during the reporting period are also noted in this report. Finally, the semiannual LDAR report includes the identification of all pump inspections including the number of pumps that monitored during the reporting period via Method 21, the number of pumps that were visually inspected, the number of pumps found to be leaking, and the number of pumps that were repaired.

10.2 Quarterly Reporting

Pursuant to 326 IAC 8-4-8(l), BP Whiting shall submit a quarterly LDAR report prior to each April 30, July 31, October 31 and January 31. Each quarterly report shall summarize BP Whiting's LDAR operations during the previous calendar month, including the total number of components that were inspected during the previous calendar quarter, and the total number of components found to be leaking, a list of all leaking components that were not repaired within fifteen days, and a list all leaking components that are awaiting unit turnaround for repair.

[2] If there is a visual indication of a leaking pump seal, the subsequent instrument-based monitoring results will be captured in LEADERS as provided in Section 8.1 of the LDAR Plan.

11.0 Program Maintenance - Management of Change

BP Whiting "Management of Change" (MOC) process requires that any physical or operational change at the refinery that has a potential environmental impact must be reviewed by the BP Whiting Environmental Group prior to enacting the change. Changes that could potentially affected the BP Whiting LDAR Program could include:

- Changes required the addition or removal of affected components.
- Changes that affect the VOC or HAP concentrations of a process stream passing through an existing unit.

The MOC process ensures that necessary changes to the component inventory can be made and any new affected equipment (or differently affected equipment) can be properly tagged with a unique tag identification number and inventoried in the LEADERS database. Environmental reviews the MOC request and forwards the information to the LDAR Clerk to ensure proper tagging and monitoring.

The BP Whiting Environmental Group has primary responsibility for reviewing proposed changes and completing appropriate MOC Forms. Any changes to the LDAR equipment inventory are then passed to the LDAR Clerk, who has primary responsibility for updating the information in LEADERS.

12.0 Consent Decree Requirement – Standards for New Equipment to Minimize Leaks and Replace Chronic Leakers

The following standards and procedures are provided to new equipment that BP Whiting installs to minimize leaks or replace chronic leakers. This provision is a requirement that is specific to the Consent Decree. Note that upon termination of the LDAR requirements of Paragraph 20, (as described in Section 2.5 of this LDAR Plan) BP Whiting will no longer be required to meet this requirement. There is no corresponding state or Federal requirement.

All new components (including chronic leaker replacements) must be capable of meeting design emission thresholds specified in the Consent Decree. In addition, all new valves purchased and installed by BP Whiting shall meet the criteria of the following ACES specifications:

A PN-VA-GS-G Piping Valves General Service Selection Guide
A PN-VA-LIST-S Piping Valves Listing Full Ordering Description Guide

Valve selection shall be approved by appropriate members of the refinery Availability Group and consider such items as manufacturer, packing design and material, stem material (and coatings), and packing loading design.

For purposes of this program, the definition of chronically leaking component will be any valve for which a leak is detected at a reading of 10,000 ppm or greater for two (2) or more times during any consecutive 12-month period. In addition, the program will examine chronic leakers that have received one (1) or more extraordinary attempt at repair in an effort to achieve emissions less than 10,000 ppm or 50,000 ppm. A further discussion at “extraordinary attempts at repair “ is provided in Section 8.3.3 of this LDAR Plan.

This list of chronically leaking components will be developed and reviewed semiannually with the appropriate members of the BP Whiting Reliability Group. This group will evaluate the components and recommend any options to minimize leaks that are found to be feasible and economically justifiable.

Options can include, but are not limited to, the following:

- Vent to an air pollution control device
- Different packing material
- Replacement with low emission valves

The recommended options for leak minimization will be completed no later than during the next process unit turnaround, and the results of the leak minimization efforts shall be evaluated by comparing the average monitoring results (in ppm) from the 12 months prior to repair efforts to the 12 months following the repair efforts.

A summary of leak minimization procedures and results shall be provided to the BP Reliability Group (a sample summary form is provided on the following page) for evaluation. The summary information will also be made available to other BP Business Units affected by the Consent Decree to ensure that the BP Reliability Group has the most current information by which to evaluate future minimization efforts.

Leak Minimization Efforts Evaluation Summary

Component Type	Description (e.g. Manufacturer, etc)	Size	Service	Pressure	Temperature	Leak Minimization Option	Date Implemented	Pre-Implementation 12-month Average Monitoring Reading (ppm)	Post-Implementation 12-month Average Monitoring Reading (ppm)

Revision Level	Change(s)	Author	Date
0	Initial Issue	L. Smith	02/2001
1	Consent Decree and Program Review	R. Dippo	06/2002
2	Incorporation of LEADERS software	R. Dippo	12/2003
3	Reorganization of Plan	R. Dippo	05/2004

BP Products North America Inc.
Whiting Business Unit
Whiting, Indiana

Appendix B to Minor Source Modification No.: 089-23177-00453
Fugitive Dust Control Plan

Maintained by the Whiting Business Unit Environmental Staff

BP Whiting Refinery
Fugitive Dust Control Plan

1.0 Introduction

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 (BP Whiting). BP Whiting is specifically required in Title 326, Article 6, Rule 1, Section 11.1(a)(2)(A) of the Indiana Administrative Code (326 IAC 6-1-11.1(a)(2)(A)) to comply with the fugitive dust control provisions of 326 IAC 6-1-11.1.[1]

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 6-1-11.1 and control measures and practices that BP Whiting employs to achieve compliance with such limitations.

1.1 Facility Location and Affected Facilities

As required per 326 IAC 6-1-11.1(e)(3), 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 6-1-11.1:

- Refinery Road System, including paved and unpaved roads and parking lots.
- Coke Handling, Storage, and Transport
- Catalyst/Sludge Staging Area, referred to as the “Cat Pad”
- Miscellaneous, Temporary Storage Piles of Various Materials (e.g., sand, soil, stone)

The plot plan of the BP Whiting Refinery, including the location of roads, parking lots, permanent storage piles, and material processing and transfer facilities, is provided by reference:
Drawing No. 3000-0243CAD.

[1] The BP Whiting Refinery is identified as “Amoco Oil, Whiting Refinery” in 326 IAC 6-1-11.1(a)(2)(A).

1.2 Regulatory Basis and Scope of the Fugitive Dust Control Plan

County-specific fugitive dust emissions requirements are provided in 326 IAC 6-1-11.1 for Lake County, Indiana. Pursuant to 326 IAC 6-1-11.1(a)(2)(A), 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 particularly relevant to BP Whiting operations are summarized below:

- 326 IAC 6-1-11.1(a)(2)(A). Applicability
- 326 IAC 6-1-11.1(c). Definitions
- 326 IAC 6-1-11.1(d)(1). Paved Road/Parking Lot Limitations and Procedures.
- 326 IAC 6-1-11.1(d)(2). Unpaved Road/Parking Lot Limitations and Procedures.
- 326 IAC 6-1-11.1(d)(3). Material Transfer (e.g., Batch Loading) Limitations and Procedures.
- 326 IAC 6-1-11.1(d)(5). Storage Pile Wind Erosion Limitations and Procedures.
- 326 IAC 6-1-11.1(d)(6). Material Transportation Limitations and Procedures.
- 326 IAC 6-1-11.1(c). Fugitive Dust Control Plan Requirements.

2.0 Definitions and Abbreviations

“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%), having potential to emit particulate emissions when disturbed by transfer, processing, and transportation activities.

“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 (defined above).

“Unpaved Road” means a thoroughfare or right-of-way other than a paved road designed or used for vehicular traffic.

3.0 Description of Affected Facilities and Operations

3.1 Refinery Road System

There are approximately 37 miles of roads located on-site at the BP Whiting Refinery. Unpaved roads total about 2 miles, with the remainder of the roadway system consisting of paved roads. The unpaved roads are located in infrequently travelled portions of the refinery. The total number of vehicles travelling on the refinery road system 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 the season.[2]

Fugitive dust emissions estimates for roads and/or traffic are estimated using the most current version of the U.S. EPA AP-42. At the time of the drafting of this Fugitive Dust Control Plan, the most current paved and unpaved emissions estimation procedures were provided in Chapters 13.2.1 and 13.2.2, respectively, both issued in the U.S. EPA AP-42 Version 5, December 2003 Updates. Note that recommended silt loading data is not provided for paved roads in refinery-type operations in Chapter 13.2.1. For lack of more specific data, BP Whiting is utilizing recommended data provided for steel production facilities.

3.2 Coke Processing and Transfer Operation

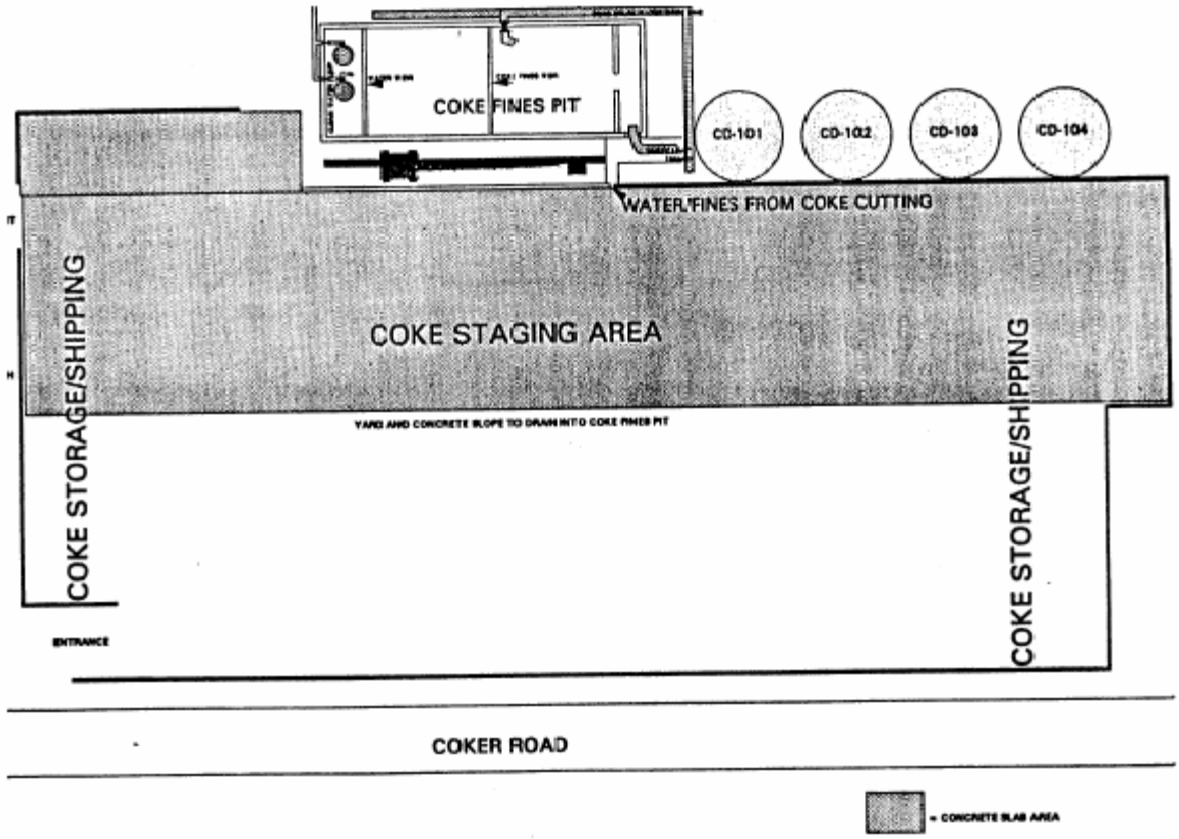
The maximum rate of coke production at the BP Whiting Refinery No. 11B Coker is estimated to be 2,000 tons per day (tpd). Potential fugitive dust emissions may result from coke handling, storage, and transfer operations that take place in the coke yard. Figure 1 includes a plot plan of the coke yard.

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 2. 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 scooped out with a crane periodically and added to the coke pile. Tests show that the coke contains less than one percent by weight (1% by wt.) of material finer than 200 mesh. 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.

[2] Vehicle traffic is potentially higher during high asphalt-demand seasons, which increases the amount of transfer truck traffic.

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. Loading procedures specify that the coke that has been in the yard the longest must be shipped out first, which helps prevent the accumulation of overly dry coke on the piles. To remove coke from the coke yard, the material is transferred from the storage piles to trucks using a front-end loader, and trucks transport the coke from the refinery. The transport trucks are tarped prior to leaving the refinery.

Figure 1. Coke Yard Plot Plan



3.3 Miscellaneous Refinery Storage Piles

Various permanent and temporary storage piles are maintained throughout the refinery. The Cat Pad, a spent catalyst/sludge staging area, is maintained as a permanent facility for storing and dewatering catalyst and sludges removed from various refinery units prior to disposal. Temporary storage piles of various materials such as sand, soil, or stone can also be found intermittently throughout the Refinery. Additional details regarding these miscellaneous storage operations are provided in the following sections.

3.3.1 Cat Pad

The Cat Pad is an area designed for the temporary storage and dewatering of materials that are removed from refinery units, including spent catalyst, heat exchanger sludges, and oil- or water-soaked debris. Material is unloaded to the Cat Pad by dumping from trucks or drums, usually in a wet state onto the pad. Any movement of material on the pad is performed using a front-end loader. Materials that are sent to the pad in a dry condition are wetted down with water after dumping onto the pad. 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 boxes) for proper disposal.

Because a wide variety of materials are handled at the staging area, moisture and silt content of materials handled varies, and in most cases, is unknown. Fugitive emissions resulting in opacities greater than ten percent (10%) have not historically been observed.

3.3.2 Temporary Storage Piles

On an as-needed basis, temporary storage piles are maintained throughout the refinery. The storage piles are typically comprised of sand, soil, or crushed stone for use or application in various refinery locations. The storage piles are typically delivered by dumping from a truck. Distribution from a particular storage pile then occurs using a front-end loader or manual shovels depending on the magnitude of the job. Moisture and silt content of the materials may vary widely. Fugitive emissions resulting in opacities greater than ten percent (10%) have not historically been observed.

4.0 Control Measures and Practices

4.1 Refinery Road System

4.1.1 Main Paved Roads

The main roads used by traffic in the refinery are paved and are 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), the sweeping is rescheduled. Sweeping continues on the two times per week schedule during the months of December, January, and February, weather permitting. Because weather conditions in the winter months can prohibit sweeping and eliminate the need for it (wet and/or snowy conditions), alternate sweeping dates will not be scheduled for those days when sweeping cannot occur. A contract vacuum sweeper typically is used.

4.1.2 Less Traveled Paved Roads

Most roads within the BP Whiting Refinery are paved, including less traveled roads. The refinery has a 20 miles per hour (mph) speed limit throughout the facility that is enforced by plant security, which minimizes fugitive dust from road traffic. The less traveled paved roads within the refinery (excluding tank fields) are swept on an as-needed basis, which is typically about one time per week.

4.1.3 Unpaved Areas

Relatively high traffic, unpaved areas in the refinery are treated two to three times per year by spray truck application using a chemical dust suppressant. BP Whiting shall retain a Material Safety Data Sheet (MSDS) for any chemical dust suppressant applied at the refinery, as needed. Areas that are potentially treated using the chemical dust suppressant include the J&L road system, refinery transfer site, and the area surrounding the catalyst/sludge staging pad. A contractor typically performs chemical treatment of unpaved roads.

4.2 Coke Handling, Storage, and Trucking

BP Whiting personnel conduct a quarterly inspection of the coke yard to ensure that coke is completely contained in appropriate vessels until the sluicing operation. The moisture content in the coke at the staging area (i.e., coke immediately following sluicing) is sufficiently high to prevent fugitive dust emissions.

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. BP Whiting personnel conduct a weekly inspection of the coke yard to verify that no pile extends higher than the surrounding 15 foot piling wall.

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 fenceline 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. BP Whiting personnel conduct a quarterly inspection of the coke transfer operations to ensure that each of these three control measures (i.e., tarping, truck inspection, and truck cleaning) are in practice.

4.3 Cat Pad

Materials that are transported to storage piles at the Cat Pad in the dry state are wetted down after dumping to prevent fugitive dust emissions. BP Whiting personnel conduct a quarterly inspection of the miscellaneous refinery storage piles to ensure that this practice is in use.

5.0 Quarterly Visible Emissions Observations of Coke Yard Operations

In accordance with the Title V operating permit, BP Whiting personnel will perform quarterly visible emissions observations to determine the opacity of fugitive dust emissions resulting from various coke yard operations, as provided below:

5.1 Batch Transfer

BP Whiting shall conduct quarterly visible emissions observations of batch transfer operations (i.e., transport of coke fines from the staging area to the coke piles via crane). Pursuant to 326 IAC 6-1-11.1, visible emissions resulting from batch transfer operations are limited to no greater than 10% opacity.

The average instantaneous opacity test will 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 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.

5.2 Wind Erosion from Storage Piles

BP Whiting shall conduct quarterly visible emissions observations of wind erosion from storage piles at the coke yard. Pursuant to 326 IAC 6-1-11.1, visible emissions of wind erosion from storage piles may not exceed 10% opacity on a 6-minute average.

The opacity will be determined using 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 will stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. This test will not be conducted when application of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds.

5.3 Material Transported by Truck or Rail

Pursuant to 326 IAC 6-1-11.1, there shall be no visible emissions resulting from material transfer operations via truck or rail at any time. Note that material transported by truck or rail that is enclosed and covered will be considered in compliance with the no visible emissions requirement.

For material transported in non-covered vehicles (i.e., truck or railcar), compliance with the no-visible-emissions requirement shall be determined by conducting quarterly visible emissions observations in accordance with the procedures provided in 40 CFR 60, Appendix A, Method 22, except that the observation will be taken at approximately right angles to the prevailing wind from the leeward side of the vehicle. The observations shall be made within BP Whiting Refinery property lines.

5.4 Material Transported by Front-End Loader or Skip Hoist

BP Whiting shall conduct quarterly visible emissions observations of material transport operations using front-end loaders or skip hoists (i.e., transfer of material from coke piles to trucks). Pursuant to 326 IAC 6-1-11.1, visible emissions resulting from material transport by front-end loader or skip hoist shall note exceed 10% opacity.

The opacity will be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings will be taken as follows:

- The first will be taken at the time of emission generation.
- The second will be taken five (5) seconds later.
- The third will be taken five (5) second later or ten (10) seconds after the first.

6.0 Documentation

6.1 Recordkeeping

The following documentation of fugitive emissions control measures shall be maintained:

Road Sweeping Control Procedures

- Record the date of each road sweeping activity.
- For any day that scheduled sweeping did not occur, record the scheduled date and reason for the delay (e.g., weather considerations, sweeper malfunctions, work stoppage, etc.) and whether sweeping is scheduled for an alternative date.
- Record each application of a chemical dust suppressant to any road, including the date and location of application, chemical application rate, and the concentration and quantity of chemical used.
- Retain a copy of the MSDS of any chemical dust suppressant used.
- For the application of physical or chemical control agents on storage piles, the name and location of the application; application rate; total quantity of agent used; and if diluted, percent of concentration will be recorded. The Material Data Safety Sheet (MSDS) for each chemical used will be kept on file.
- A logbook for records of events where a control measures (e.g., road sweeping) described within this plan were not implemented, including a statement of explanation (e.g., weather conditions, stop work)

Coke Yard Control Procedures

- Record the date and results of all quarterly compliance audits of Coke Yard operations to ensure appropriate control practices are in place.
- Record the date, location, and results of all quarterly visual inspections.

6.2 Reporting

BP Whiting submits a quarterly deviation report to IDEM within thirty (30) calendar days from the end of each quarter (i.e., January 30, April 30, July 30, October 30). The quarterly deviation report shall include a summary of any deviations from the limitations and/or control procedures provided in this Fugitive Dust Control Plan, including the date(s), description, and cause of the deviation and any corrective action taken as a result. Note that cases where control measures, such as road sweeping, were performed on alternate dates, as documented in the operating logs, shall not be included in the quarterly deviation reports.

7.0 Plan Maintenance – Management of Change

Revisions to this Plan may be precipitated based upon 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 in this section.

Pursuant to 326 IAC 6-1-11.1(e)(6), a source specifically listed in Section 11.1 shall be exempt from the requirement to develop a Plan if it can demonstrate to the department that its uncontrolled PM_{10} emissions are less than five tons per year. An exemption must be approved by both the department and by U.S. EPA as a revision to the state implementation plan. The approval of an exemption would result in the revocation of this plan, as it would no longer be required under BP Whiting's Title V permit.

326 IAC 6-1-11.1(e)(8) states that the department may require that a source revise its control plan if either of the following apply:

- 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; or
- The department's evaluation of the plan determination that the requirements of the control plan have not been met.

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