INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: February 11, 2013

RE: Heritage-Crystal Clean, LLC / 097-31757-00670

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07

IDEM

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

Mr. Bob Weldzius
Heritage-Crystal Clean, LLC
3970 West 10th Street
Indianapolis, IN 46222-3269

February 11, 2013

Re: 097-31757-00670
First Significant Revision to
F097-28484-00670

Dear Mr. Weldzius:

Heritage-Crystal Clean, LLC was issued a Federally Enforceable State Operating Permit (FESOP) No. F097-28484-00670 on June 24, 2010 for a stationary used oil and used solvent recycling and distibution facility located at 3970 W. 10th Street, Indianapolis, IN 46222. On April 18, 2012, the Office of Air Quality (OAQ) received an application from the source requesting:

(a) The increase in throughput through the lube oil process from 50 million gallons per year to 75 million gallons per year;

(b) The replacement of Heater H-401 (36 MMBtu/hr) with Heater H-402 (60 MMBtu/hr) as the primary Dehydration Heater. The 60 MMBtu/hr capacity is the total capacity for natural gas, vaporized distillate and off gas;

Heater H-401 will not be removed from the source and will be limited to use only during instances of H-402 downtime, serving as a backup. H-401 will be maintained in the permit. The limited PTE of the entire source will be based on the scenario that only one Dehydration heater will be used at a time.

(c) The increase in the heat input capacity of H-400 from 17.9 MMBtu/hr to 25.00 MMBtu/hr (natural gas and off gas total capacity) by installing larger heater registers or replacing the heater entirely with a larger unit;

(d) The increase in the heat input capacity of H-401 from 33.00 MMBtu/hr to 36.00 MMBtu/hr (natural gas and off gas total capacity).

(e) The increase in the heat input capacity of H-500 from 8.3 MMBtu/hr to 14 MMBtu/hr (natural gas and off gas total capacity) by installing larger heater registers or replacing the heater entirely with a larger unit;

(f) The increase in the heat input capacity of H-501 from 8.7 MMBtu/hr to 10 MMBtu/hr (natural gas and off gas total capacity).

(g) The correction of the heat input capacity of natural gas-fired boiler SB-201 from 16.33 MMBtu/hr to 16.74 MMBtu/hr.

(h) The modification in method of operation to reroute the VLO off-gas stream, which is currently routed to Heaters H-400 and H-401/H-402, to be primarily routed H-401/H-402 and to be routed to H-400, H-500 and H-501 during start-up and shutdown of H-401/H-402.

(i) The modification in method of operation to reroute the HT off-gas stream, which is currently routed to Heater H-400, to Heaters H-500 and H-501. Two-thirds of the flow would be routed to H-500 and one-third would be routed to H-501. The existing HT off-gas routing to H-400 would remain, so that H-400 could be used as a back-up during HT start of run reactor conditions and HT startup and shutdown. In addition, the HT off-gas stream would have the ability to be routed to Heater H-401/H-402 during HT start of run reactor conditions and HT startup and shutdown.

(j) The addition of one (1) caustic scrubber, identified as V-510, to remove H_2S from the HT off-gas stream prior to combustion in Heaters H-500 and H-501.

(k) The addition of nine (9) miscellaneous storage tanks, identified as Tanks 42 through 50;

(l) The removal of one (1) storage tank, identified as Tank 20;

(m) The correction of the identification of the one (1) low pressure caustic flash drum from V-503 to V-502;

(n) The addition of one (1) air dryer, identified as T-503, used to cool and dry the steam bottoms product, which will exhaust through stack T-503;

(o) Changes to throughput and service for certain existing tanks:

(1) Tank 7 will no longer be storing HT Fuel and will store Non-Haz Waste 142;

(2) Tank 37 will no longer be storing Used Oil and will store Asphalt; and

(3) Tank 38 will no longer be storing Used Oil and will store VLO.

(p) The revision and addition of FESOP limits;

(q) The revision of compliance monitoring and compliance determination requirements; and

(r) The correction of the source's SIC code from primary code 4212 (Local Trucking without Storage) and secondary code 5084 (Industrial Machinery and Equipment) to primary code 2992 (Lubricating Oils and Greases).

The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

The following construction conditions are applicable to the proposed project:

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

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the

rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

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

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

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

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Jason R. Krawczyk, of my staff, at 317-234-5174 or 1-800-451-6027, and ask for extension 4-5174.

Sincerely,

Nathan Bell

Nathan Bell, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

NB/JRK

cc: File - Marion County
Marion County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

New Source Review and Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

Heritage-Crystal Clean, LLC
3970 W. 10th Street
Indianapolis, Indiana 46222

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

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F097-28484-00670	
Issued by: *Original Signed By:* Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: June 24, 2010 Expiration Date: June 24, 2015

First Administrative Amendment No.: F097-31350-00670, issued January 25, 2012

First Significant Permit Revision No.: F097-31757-00670	
Issued by: Nathan Bell Nathan Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: February 11, 2013 Expiration Date: June 24, 2015

TABLE OF CONTENTS

A. SOURCE SUMMARY 5
A.1 General Information [326 IAC 2-8-3(b)]
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]
A.4 FESOP Applicability [326 IAC 2-8-2]

B. GENERAL CONDITIONS 111
B.1 Definitions [326 IAC 2-8-1]
B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]
B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]
B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]
B.5 Term of Conditions [326 IAC 2-1.1-9.5]
B.6 Enforceability [326 IAC 2-8-6] [IC 13-17-12]
B.7 Severability [326 IAC 2-8-4(4)]
B.8 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]
B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]
B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]
B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]
B.12 Compliance Order Issuance [326 IAC 2-8-5(b)]
B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]
B.14 Emergency Provisions [326 IAC 2-8-12]
B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]
B.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]
B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]
B.18 Permit Renewal [326 IAC 2-8-3(h)]
B.19 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]
B.20 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]
B.21 Source Modification Requirement [326 IAC 2-8-11.1]
B.22 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2] [IC 13-30-3-1]
B.23 Transfer of Ownership or Operational Control [326 IAC 2-8-10]
B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16] [326 IAC 2-1.1-7]
B.25 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]
B.26 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

C. SOURCE OPERATION CONDITIONS 21

Emission Limitations and Standards [326 IAC 2-8-4(1)]
C.1 Overall Source Limit [326 IAC 2-8]
C.2 Opacity [326 IAC 5-1]
C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
C.5 Fugitive Dust Emissions [326 IAC 6-4]
C.6 Stack Height [326 IAC 1-7]
C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

Testing Requirements [326 IAC 2-8-4(3)]
C.8 Performance Testing [326 IAC 3-6]

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

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]
C.10 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]
C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]
C.12 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
C.13 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]
C.15 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
C.16 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection
C.17 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1. EMISSIONS UNIT OPERATION CONDITIONS 28

Emission Limitations and Standards [326 IAC 2-8-4(1)]
D.1.1 Particulate Matter (PM) [326 IAC 6-2-4]
D.1.2 FESOP and PSD Minor Limits [326 IAC 2-8-4][326 IAC 2-2]
D.1.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1][326 IAC 7-2-1]
D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements
D.1.5 Scrubber Operation
D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]
D.1.7 Sulfur Dioxide (SO_2), Nitrogen Oxides (NOx), Carbon Monoxide (CO), and Carbon Dioxide Equivalents (CO2e)
D.1.8 Sulfur Dioxide (SO_2) Emissions and Sulfur Content

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]
D.1.9 Visible Emissions Notations
D.1.10 Wet Scrubber Parametric Monitoring
D.1.11 Process Feed Stream Monitoring

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]
D.1.12 Record Keeping Requirement
D.1.13 Reporting Requirement

E.1. FACILITY OPERATION CONDITIONS - 38

New Source Performance Standards (NSPS) Requirements: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR 60, Subpart A]
E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]

E.2. FACILITY OPERATION CONDITIONS 40

New Source Performance Standards (NSPS) Requirements: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR 60, Subpart A]

E.2.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60, Subpart IIII]

E.3. FACILITY OPERATION CONDITIONS 41

National Emissions Standards for Hazardous Air Pollutants (NESHAP) Requirements: Stationary Reciprocating Internal Combustion Engines

E.3.1 General Provisions Relating to National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

E.3.2 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]

Certification Form 42
Emergency Occurrence Form 43
Quarterly Report Form 45-52
Quarterly Deviation and Compliance Monitoring Report Form 53
Affidavit of Construction 55

Attachment A: NSPS Subpart Dc
Attachment B: NSPS Subpart IIII
Attachment C: NESHAP Subpart ZZZZ

SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary used oil and used solvent recycling and distibution facility.

Source Address:	3970 W. 10th Street, Indianapolis, IN 46222
General Source Phone Number:	(317) 486-0620
SIC Code:	2992 (Lubricating Oils and Greases)
County Location:	Marion
Source Location Status:	Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

(a) One (1) lube oil process, with a maximum capacity of 75 million gallons per year, and consisting of:

(1) One (1) Lube Oil Distillation Process, identified as P-400, used to remove water, light fuels, and heavy hydrocarbons from the used oil feed stream; producing two overhead streams, which include a water/light fuel stream and an off-gas stream, and byproducts vacuum lube oil and asphalt, consisting of:

(i) One (1) natural gas-fired boiler, identified as SB-201, constructed in 2012, with a maximum capacity of 16.74 MMBtu/hr, and exhausting through stack SB-201;

Under 40 CFR 60, Subpart Dc, SB-201 is considered an affected facility.

(ii) One (1) vacuum heater, constructed in 2010, approved for modification in 2012, fueled by natural gas during normal operation, and process stream off-gases during start-up or shut-down of H-401/H-402, H-500, or H-501 or during HT start of run conditions, identified as H-400, with a maximum capacity of 25.00 MMBtu/hr, and exhausting through stack H-400;

(iii) One (1) dehydration heater, approved for construction in 2012, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-402, with a maximum capacity of 60 MMBtu/hr, and exhausting through stack H-402;

(iv) One (1) back-up dehydration heater, constructed in 2010, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas,

sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-401, with a maximum capacity of 36.0 MMBtu/hr, and exhausting through stack H-401. H-401 will be used only during instances of H-402 downtime.

(v) One (1) caustic scrubber, identified as V-403, used to remove H_2S from P-400 and MS142 off-gasses, prior to entering Vacuum Heater H-400 and Dehydration Heater H-401;

(vi) One (1) Lube Oil Distillation Unit and ancillary equipment; and

(vii) One (1) vacuum system used to collect and transfer off-gas from P-400 to V-403 or back to P-400.

(2) One (1) Lube Oil Hydrotreater (HT) process, identified as P-500, used to improve the quality of lube oil as a finished product, consisting of:

(i) A series of reactors, to remove nitrogen, oxygen, sulfur, chlorine, and other contaminants;

(ii) One (1) process heater, constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up or shut-down of H-401/H-402, identified as H-500, with a nominal rating of 14.00 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-500;

(iii) One (1) process heater, constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up and shutdown of H-401/H-402, identified as H-501, with a nominal rating of 10.00 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-501;

(iv) One (1) caustic scrubber, identified as T-501, used to remove H_2S from of the hydrogen rich recycle gas used in the reactors.

(v) One (1) natural gas process heater, identified as H-502, constructed in 2011, with a nominal rating of 6.00 MMBtu/hr, used to preheat the P-500 reactor feed to the steam stripper column, and exhausting through stack H-502;

(vi) One (1) steam stripper column, identified as T-500, and associated ancillary equipment, used to remove light fuels or off-gas;

(vii) Two (2) air dryers, identified as T-502 and T-503, used to cool and dry the steam stripper bottoms product, exhausting through stacks T-502 and T-503, respectively;

(viii) One (1) high pressure separator, identified as V-501;

(ix) One (1) low pressure caustic flash drum, identified as V-502;

(x) One (1) off-gas knock out, identified as V-505;

(xi) One (1) caustic cooler heat exchanger, identified as E-503; and

(xii) One (1) caustic scrubber, identified as V-510, used to remove H2S from the HT off-gas stream prior to combustion in Heaters H-500 and H-501.

(b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in 2007, with a maximum capacity of 6,000 gallons per hour, processing mineral spirits to produce clean solvents, residue, and light fuel, utilizing no control devices, and exhausting to the ambient air, and consisting of:

(1) One (1) natural gas-fired boiler, identified as SB-200, with a maximum capacity of 14.645 MMBtu/hr, and exhausting through stack SB-200.

Under 40 CFR 60, Subpart Dc, SB-200 is considered an affected facility.

(2) One (1) Distillation Column and associated ancillary equipment, identified as MS142.

(3) One (1) Vacuum system used to collect and transfer off-gas from MS142 to T-102.

(4) One (1) Caustic Scrubber, identified as T-102, used to remove odor from MS142 off-gasses.

(c) One (1) used solvent operation, identified as P-200, constructed in 1996, with a maximum capacity of 27,300 gallons per hour, processing used antifreeze, used paint gun cleaner, used mineral spirits, combined oil/oily water, used immersion cleaner, hazardous waste water, and non-regulated tanker wash – fuel from mineral spirits to produce clean solvents, residue, and light fuels, utilizing no control devices, and exhausting to the ambient air.

(d) One (1) used solvent material handling and transfer operations, identified as L-100, with a maximum capacity of 27,300 gallons per hour.

(e) One (1) combined clean mineral spirits material handling and transfer operations, identified as L-101, with a maximum capacity of 6,000 gallons per hour.

(f) One (1) lube oil material handling and transfer operations, identified as L-102, with a maximum capacity of 4,844 gallons per hour.

(g) Miscellaneous storage tanks including:

Tank ID	Tank Contents	Nominal Capacity (gal)
Tank 1	Used Oil	20,000
Tank 2	142 Mineral Spirits	20,000
Tank 3	Reuse	20,000
Tank 4	Oily Water	20,000
Tank 5	Used Oil	20,000
Tank 6	Virgin 106/142 Mineral Spirits	20,000
Tank 7	Non Haz-Waste 142	71,000
Tank 8	HT lube	1,000,000
Tank 9	HT lube	1,000,000
Tank 10	142 MS Product	22,500
Tank 11	142 MS Product	22,500
Tank 12	Side-cut/ 142 Mineral Spirits	22,500
Tank 13	Side-cut/ 142 Mineral Spirits	22,500
Tank 14	142 O/H Water	19,000
Tank 15	Odorless	22,500

Tank ID	Tank Contents	Nominal Capacity (gal)
Tank 16	Non-Haz Waste 142	19,000
Tank 17	Mineral Spirits	10,000
Tank 18	Asphalt	30,000
Tank 19	Asphalt	30,000
Tank 21	Used Oil	30,000
Tank 22	Used Oil	30,000
Tank 23	Used Oil	30,000
Tank 24	Used Oil	30,000
Tank 25	HT Fuel	30,000
Tank 26	HT Fuel	30,000
Tank 27	VLO	30,000
Tank 28	VLO	30,000
Tank 29	HT Lube	30,000
Tank 30	HT Lube	30,000
Tank 31	Sour Water	30,000
Tank 32	Fresh Caustic	30,000
Tank 33	Spent Caustic	30,000
Tank 34	HT Lube	1,600,000
Tank 35	Used Oil	1,800,000
Tank 36	Firewater	1,000,000
Tank 37	Asphalt	1,000,000
Tank 38	VLO	1,000,000
Tank 39	Non-Haz Waste 142	1,000,000
Tank 42	HT Water	30,000
Tank 43	HT Fuel	30,000
Tank 44	HT Fuel	30,000
Tank 45	Spent Caustic	30,000
Tank 46	Used Oil	30,000
Tank 47	Used Oil	30,000
Tank 48	Light Fuel	30,000
Tank 49	Light Fuel	30,000
Tank 50	Non-Haz Waste 142	22,500

Tanks 7, 37, and 38 are approved for modification in 2012.

Tanks 42 through 50 are approved for construction in 2012.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.

(b) Equipment powered by diesel fuel fired or natural gas fired internal combustion engines of capacity equal to or less than five hundred thousand (500,000) Btu/hr, except where total capacity of equipment operated by one stationary source exceeds two million (2,000,000) Btu/hr.

(c) Vessels storing the following:

(1) Lubricating oils

(d) Cleaners and solvent characterized as follows where the use of which, for all cleaners and solvent combined does not exceed one hundred forty-five (145) gallons per twelve (12) months:

(1) Having a vapor pressure equal to or less than seven-tenths kilo Pascals (0.7kPa) (five millimeters of mercury (5mm Hg) or one-tenth pound per square inch (0.1 psi)) measured

at twenty degrees Centigrade (20ºC) (sixty-eight degrees Fahrenheit (68ºF))

(e) The following equipment related to manufacturing activities not resulting in the emission of HAPs:

(1) Cutting torches

(2) Welding equipment

(f) Closed loop heating and cooling systems

(g) Water-based activities including the following:

(1) Noncontact cooling tower systems with forced and induced draft cooling tower systems not regulated under a NESHAP

(h) Repair activities, including the following:

(1) Heat exchanger cleaning and repair

(2) Process vessel degreasing and cleaning to prepare for internal repairs

(i) Paved and unpaved roads and parking lots with public access

(j) Routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process, including the following:

(1) Purging of gas lines

(2) Purging of vessels

(k) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including the following:

(1) Fluid handling equipment

(l) Blowdown for the following:

(1) Boiler

(2) Compressors

(3) Cooling tower

(m) Activities associated with emergencies, including:

(1) Two (2) stationary fire pump engines, identified as FW- 1 and FW-2, each with a maximum capacity of 300 Hp, combusting No. 2 fuel oil.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the stationary fire pump engines are considered affected facilities.

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

(1) One (1) 360-gallon No.2 Distillate fuel oil tank, identified as Tank FW Fuel.

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

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

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

B.2 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 permit 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.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and 326 IAC 2-8 when prior to the start of operation, the following requirements are met:

(a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.

(c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

(a) This permit, F097-28484-00670, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

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

B.6 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

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

B.7 Severability [326 IAC 2-8-4(4)]

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

B.8 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

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

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

B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

(i) it contains a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1), and

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

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

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

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

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

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

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

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

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

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

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

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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.14 Emergency Provisions [326 IAC 2-8-12]

(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 except as provided in 326 IAC 2-8-12.

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

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

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

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

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

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

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

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

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) 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 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) 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.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F097-28484-00670 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

(1) That this permit contains a material mistake.

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

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.18 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

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

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

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

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.19 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

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

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.20 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b)(1) and (c) without a prior permit revision, if each of the following conditions is met:

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

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

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

(4) The Permittee notifies the:

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

and

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

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

(b) Emission Trades [326 IAC 2-8-15(b)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

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

B.21 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.22 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

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

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

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

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

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

B.23 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

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

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

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

B.25 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

(a) The requirements to obtain a permit modification under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.

(b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

B.26 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may

open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

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

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

C.5 Fugitive Dust Emissions [326 IAC 6-4]

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

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

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

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

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

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

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

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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

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

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.12 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.13 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

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

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

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

(1) initial inspection and evaluation;

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

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

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

(1) monitoring results;

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

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

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

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

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

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

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

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

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.15 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

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

Support information includes the following:

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

Records of required monitoring information include the following:

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

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

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

C.16 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

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

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. 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.

Stratospheric Ozone Protection

C.17 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) lube oil process, with a maximum capacity of 75 million gallons per year, and consisting of:

(1) One (1) Lube Oil Distillation Process, identified as P-400, used to remove water, light fuels, and heavy hydrocarbons from the used oil feed stream; producing two overhead streams, which include a water/light fuel stream and an off-gas stream, and byproducts vacuum lube oil and asphalt, consisting of:

(i) One (1) natural gas-fired boiler, identified as SB-201, constructed in 2012, with a maximum capacity of 16.74 MMBtu/hr, and exhausting through stack SB-201;

Under 40 CFR 60, Subpart Dc, SB-201 is considered an affected facility.

(ii) One (1) vacuum heater, constructed in 2010, approved for modification in 2012, fueled by natural gas during normal operation, and process stream off-gases during start-up or shut-down of H-401/402, H-500, or H-501 or during HT start of run conditions, identified as H-400, with a maximum capacity of 25.00 MMBtu/hr, and exhausting through stack H-400;

(iii) One (1) dehydration heater, approved for construction in 2012, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-402, with a maximum capacity of 60 MMBtu/hr, and exhausting through stack H-402;

(iv) One (1) back-up dehydration heater, constructed in 2010, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-401, with a maximum capacity of 36.0 MMBtu/hr, and exhausting through stack H-401. H-401 will be used only during instances of H-402 downtime.

(v) One (1) caustic scrubber, identified as V-403, used to remove H_2S from P-400 and MS142 off-gasses, prior to entering Vacuum Heater H-400 and Dehydration Heater H-401;

(vi) One (1) Lube Oil Distillation Unit and ancillary equipment; and

(vii) One (1) vacuum system used to collect and transfer off-gas from P-400 to V-403 or back to P-400.

(2) One (1) Lube Oil Hydrotreater (HT) process, identified as P-500, used to improve the quality of lube oil as a finished product, consisting of:

(i) A series of reactors, to remove nitrogen, oxygen, sulfur, chlorine, and other contaminants;

(ii) One (1) process heater, constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up or shut-down of H-401/402, identified as H-500, with a nominal rating of 14.00 MMBtu/hr,

used to heat the P-500 reactor feeds, and exhausting through stack H-500;

(iii) One (1) process heater, constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up and shutdown of H-401/H-402, identified as H-501, with a nominal rating of 10.00 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-501;

(iv) One (1) caustic scrubber, identified as T-501, used to remove H_2S from of the hydrogen rich recycle gas used in the reactors.

(v) One (1) natural gas process heater, identified as H-502, constructed in 2011, with a nominal rating of 6.00 MMBtu/hr, used to preheat the P-500 reactor feed to the steam stripper column, and exhausting through stack H-502;

(vi) One (1) steam stripper column, identified as T-500, and associated ancillary equipment, used to remove light fuels or off-gas;

(vii) Two (2) air dryers, identified as T-502 and T-503, used to cool and dry the steam stripper bottoms product, exhausting through stacks T-502 and T-503, respectively;

(viii) One (1) high pressure separator, identified as V-501;

(ix) One (1) low pressure caustic flash drum, identified as V-502;

(x) One (1) off-gas knock out, identified as V-505;

(xi) One (1) caustic cooler heat exchanger, identified as E-503; and

(xii) One (1) caustic scrubber, identified as V-510, used to remove H2S from the HT off-gas stream prior to combustion in Heaters H-500 and H-501.

(b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in 2007, with a maximum capacity of 6,000 gallons per hour, processing mineral spirits to produce clean solvents, residue, and light fuel, utilizing no control devices, and exhausting to the ambient air, and consisting of:

(1) One (1) natural gas-fired boiler, identified as SB-200, with a maximum capacity of 14.645 MMBtu/hr, and exhausting through stack SB-200.

Under 40 CFR 60, Subpart Dc, SB-200 is considered an affected facility.

(2) One (1) Distillation Column and associated ancillary equipment, identified as MS142.

(3) One (1) Vacuum system used to collect and transfer off-gas from MS142 to T-102.

(4) One (1) Caustic Scrubber, identified as T-102, used to remove odor from MS142 off-gasses.

(c) One (1) used solvent operation, identified as P-200, constructed in 1996, with a maximum capacity of 27,300 gallons per hour, processing used antifreeze, used paint gun cleaner, used mineral spirits, combined oil/oily water, used immersion cleaner, hazardous waste water, and

non-regulated tanker wash – fuel from mineral spirits to produce clean solvents, residue, and light fuels, utilizing no control devices, and exhausting to the ambient air.

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate emissions from boilers SB-200 and SB-201, vacuum heater H-400, process heaters H-500, H-501, and H-502, and dehydration heaters H-401 and H-402, shall not exceed the pounds per MMBtu heat input emission limits, as listed in the table below:

Year Constructed	Emission Unit	Maximum Capacity of Boilers Constructed (MMBtu/hr)	Total Source Operating Capacity at the time of construction (MMBtu/hr) (Q)	PM Emission Limitation for each boiler (lbs/MMBtu) (Pt)
2007	SB-200	14.645	14.645	0.54
2010	H400	17.90	65.545	0.37
	H-401	33.00		
2011	H-500	8.30	88.545	0.34
	H-501	8.70		
	H-502	6.00		
2012*	SB-201	16.74	182.385	0.28
	H-400	25.00 (17.90)		
	H-402	60.00		
	H-401	36.00 (33.00)		
	H-500	14.00 (8.30)		
	H-501	10.00 (8.70)		

Note:
*H-400, H-401, H-500, and H-501 were modified in 2012 to increase the capacities of each heater. Therefore, the Total Source Operating Capacity at the time of construction (Q) accounts for the increase in MMBtu/hr for each unit.

The increase in the Q value for H-400 is 2.10 (25.00 - 17.90 = 7.10)

The increase in the Q value for H-401 is 3.00 (36.00 - 33.00 = 3.00)

The increase in the Q value for H-500 is 3.70 (14.00 - 8.30 = 5.70)

The increase in the Q value for H-501 is 1.30 (10.00 - 8.70 = 1.30)

Parenthesis "( )" denote what the previous Q value for the unit was.

These limitations are based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

D.1.2 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP) and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable, the source shall comply with the following:

(a) Source-wide SO2 emissions shall not exceed 99.67 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Source-wide NOx emissions shall not exceed 98.23 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) Source-wide CO emissions shall not exceed 98.74 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Source-wide CO2e emissions shall not exceed 99,900 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) Pound per hour emissions shall not exceed the thresholds identified in the table below:

Emission Unit ID	SO2 Limit (lbs/hr)	NOx Limit (lbs/hr)	CO Limit (lbs/hr)
HT Heater 1 (H-500)	1.00	2.50	1.87
HT Heater 2 (H-501)	0.50	1.25	1.00
Vacuum Heater H-400 (Off-Gas)	11.5	0.75	1.65
Dehydration Heater H-402	22.00	17.00	17.00
Back-up Dehydration Heater H-401	13.00	10.00	10.00

Compliance with these SO2, NOx, and CO limits, combined with the potential to emit SO2, NOx, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of SO2, NOx, and CO to less than 100 tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with the CO2e limit, combined with the potential to emit CO2e from all other emission units at this source, shall limit the source-wide total potential to emit of CO2e to less than 100,000 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1][326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

(a) The sulfur dioxide (SO_2) emissions from Heaters H-400, H-401, and H-402 shall not exceed 0.5 pounds per million Btu heat input, each, when using distillate oil.

(b) The sulfur dioxide (SO_2) emissions from Heaters H-400, H-401, and H-402 shall not exceed 1.60 pounds per million Btu heat input, each, when using residual oil.

(c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.5 Scrubber Operation

(a) In order to comply with the SO_2 emission limits in Conditions D.1.2 and D.1.3, the scrubber identified as V-403 shall be operated at all times when the lube oil hydrotreater (HT) process (P-500), and/or the lube oil distillation process (P-400), and/or the combined clean mineral spirits operation (P-100) are in operation and off-gas is being combusted in heaters H-400, and/or H-401, and/or H-402.

(b) In order to comply with the SO_2 emission limits in Conditions D.1.2 and D.1.3, the scrubbers identified as T-501 and V-510 shall be operated at all times when the lube oil hydrotreater (HT) process (P-500) is in operation and off-gas is being combusted in heaters H-500 and/or H-501.

D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for the vacuum heater H-400, while combusting off-gas, not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for the dehydration heater H-402, while combusting off-gas, not later than 180 days after initial startup, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(c) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform CO testing for back-up dehydration heater H-401, while combusting off-gas, not later than 180 days after issuance of this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(d) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2 and NO_X testing for back-up dehydration heater H-401, while combusting off-gas, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(e) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for H-500, while combusting off-gas, not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(f) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for H-501, while combusting off-gas, not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(g) In order to verify the emission factor for the natural gas-fired boiler SB-200, the Permittee shall perform one-time CO testing, not later than 180 days after issuance of this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.7 Sulfur Dioxide (SO_2), Nitrogen Oxides (NOx), Carbon Monoxide (CO), and Carbon Dioxide Equivalent (CO2e)

In order to comply with Condition D.1.2(a), D.1.2(b), D.1.2(c), and D.1.2(d), the Permittee shall determine source-wide SO_2, NOx, CO, and CO2e emissions according to the following formula:

Emissions (tons/yr) = Σ_i (Operating Hours (hrs/yr)$_i$ x Emission Rates (lb/hr)$_i$) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rates			
Emission Unit ID	SO2 (lbs/hr)	NOx (lbs/hr)	CO (lbs/hr)	CO2e (lbs/hr)
Boiler SB-200	0.01	1.27	0.23	1,768
Boiler SB-201	0.01	0.59	1.41	2,021
HT Heater 1 (H-500)	1.00	2.50	1.87	1,797
HT Heater 2 (H-501)	0.50	1.25	1.00	1,430
HT Heater 3 (H-502)	0.004	0.15	0.50	858
Vacuum Heater H-400 (Natural Gas)	0.25	0.75	1.65	3,574
Vacuum Heater H-400 (Off-Gas)	11.5	0.75	1.65	4,808
Dehydration Heater H-402	22.00	17.00	17.00	10,958
Back-up Dehydration Heater H-401	13.00	10.00	10.00	7,306
Fire Water Engine Pump 1 (FW-1)	0.62	1.98	1.71	346
Fire Water Engine Pump 2 (FW-2)	0.62	1.98	1.71	346

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

D.1.8 Sulfur Dioxide (SO_2) Emissions and Sulfur Content

(a) In order to demonstrate compliance with the SO2 emission limits in Conditions D.1.2(a) and D.1.2(e), the Permittee shall:

(1) Measure and record the sulfur content of the Used Oil Stream, VLO Feed Stream to HT, HT Rundown Stream, and HT Distillate Stream, once per day, using an instrument that will comply with Section C Instrument Specifications, of this permit.

(2) Measure and record the Total Reduced Sulfur (TRS) concentration from the P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil, twice per calendar week using the sampling protocol and analysis methods most recently approved by IDEM.

Compliance shall be determined by calculating SO2 emissions using the following equation:

$$SO2 = \frac{S * F * MWC}{1,000,000}$$

Where:

SO2 = pound per hour emission rate
S = total reduced sulfur concentration (ppmw)
F = pound per hour flow rate
MWC = molecular weight conversion from S to SO2 (64.07 / 32.066)

Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(b) Compliance may also be determined by conducting stack tests for sulfur dioxide emissions from process heater H-500 and/or process heater H-501 and/or vacuum heater H-400 and/or dehydration heater H-402 and/or back-up dehydration heater H-401, when combusting process off-gases, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.9 Visible Emissions Notations

(a) Daily visible emission notations of the vacuum heater H-400, dehydration heater H-402, back-up dehydration heater H-401, process heater H-500, and process heater H-501 stack exhausts, shall be performed during normal daylight operations when the units combust off-gas and are exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C- Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.10 Wet Scrubber Parametric Monitoring

(a) The Permittee shall monitor and record the flow rate and pH of the scrubber, V-403 at least once per day when the processes (P-100 and P-400) are in operation:

(1) When for any one reading, the caustic flow rate of the scrubber is less than the normal minimum of 50 gallons per minute, or a minimum established during the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A flow rate that is below the above mentioned minimum is not a deviation from this permit.

(2) When for any one reading, the pH of the scrubber is below a minimum of 9.5, or outside of a range as established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A pH that is outside the above mentioned range is not a deviation from this permit.

(b) The Permittee shall monitor and record the flow rate and pH of the scrubber, T-501 at least once per day when the lube oil hydrotreater process (P-500) is in operation:

(1) When for any one reading, the caustic flow rate of the scrubber is less than the normal minimum of 150 gallons per minute, or a minimum established during the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A flow rate that is below the above mentioned minimum is not a deviation from this permit.

(2) When for any one reading, the pH of the scrubber is below a minimum of 9.5, or outside of a range as established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pH that is outside the above mentioned range is not a deviation from this permit.

(c) The Permittee shall monitor and record the flow rate and pH of the scrubber, V-510 at least once per day when the lube oil hydrotreater process (P-500) is in operation and HT off-gas is being combusted in Heater H-500 and/or Heater H-501:

(1) When for any one reading, the caustic flow rate of the scrubber is less than the normal minimum of 50 gallons per minute, or a minimum established during the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A flow rate that is below the above mentioned minimum is not a deviation from this permit.

(2) When for any one reading, the pH of the scrubber is below a minimum of 9.5, or outside of a range as established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pH that is outside the above mentioned range is not a deviation from this permit.

Failure to take response steps shall be considered a deviation from this permit.

The instruments used for determining the flow rate and pH shall comply with Section C Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.1.11 Process Feed Stream Monitoring

(a) The Permittee shall monitor and record the sulfur content of the Used Oil Stream, VLO Feed Stream to HT, HT Rundown Stream, and HT Distillate Stream, once per day when the processes are in operation. When for any one reading, the sulfur content exceeds the maximum concentration allowable to maintain compliance with the SO2 emission limits in Conditions D.1.2(a) and D.1.2(e), the Permittee shall take reasonable response steps. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A sulfur content concentration that is outside the above mentioned range is not a deviation from this permit.

The instrument used for determining the sulfur content concentration shall comply with Section C Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the Total Reduced Sulfur (TRS) concentrations of the P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil, at least twice per week when the processes are in operation.

Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.12 Record Keeping Requirements

(a) To document the compliance status with Conditions D.1.2(a), D.1.2(b), D.1.2(c), D.1.2(d) and D.1.7 the Permittee shall maintain records of the total hours of operation for boiler SB-200, boiler SB-201, process heater H-500, process heater H-501, process heater H-502, vacuum heater H-400, dehydration heater H-402, back-up dehydration heater H-401, fire water engine pump 1, and fire water engine pump 2, as well as the calculated SO2, NOx, CO, and CO2e emissions from each of these units according to the equation contained in Condition D.1.7, each month and for each compliance period.

(b) To document the compliance status with the SO2 emission limits in Conditions D.1.2(a), D.1.2(e), and D.1.3, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be complete and sufficient to establish compliance with the SO2 limits as required in Conditions D.1.2(a), D.1.2(e), and D.1.3.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel usages (P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil) since last compliance determination period;

(3) Sulfur concentrations of each fuel combusted; and

(4) Sulfur dioxide emission rates in pounds per hour for each fuel combusted.

(c) To document the compliance status with Condition D.1.8(a)(1), the Permittee shall maintain records the once per day sulfur content analysis performed on the Used Oil Stream, VLO Feed Stream to HT, HT Rundown Stream, and HT Distillate Stream. The Permittee shall include in its daily record when the sulfur content analysis is not performed and the reason for the lack of the sulfur content analysis (e.g., the processes did not operate that date).

(d) To document the compliance status with Condition D.1.8(a)(2), the Permittee shall maintain records of the twice per week Total Reduced Sulfur (TRS) sampling and analysis performed on the P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil. The Permittee shall include in its twice per week record when TRS sampling and analysis is not performed and the reason for the lack of TRS sampling and analysis (e.g., the process did not operate that date).

(e) To document the compliance status with Condition D.1.9, the Permittee shall maintain records of daily visible emission notations of the H-400, H-402, H-401, H-500 and H-501 stack exhausts when combusting process off-gas. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that date).

(f) To document the compliance status with Condition D.1.10(a)(1), the Permittee shall maintain records of the daily caustic flow rate readings of scrubber V-403. The Permittee shall include in its daily record when a caustic flow rate reading is not taken and the reason for the lack of daily flow rate reading (e.g., the process did not operate that date).

(g) To document the compliance status with Condition D.1.10(a)(2), the Permittee shall maintain records of the daily pH readings of scrubber V-403. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of pH reading (e.g., the process did not operate that date).

(h) To document the compliance status with Condition D.1.10(b)(1), the Permittee shall maintain records of the daily caustic flow rate readings of scrubber T-501. The Permittee shall include in its daily record when a caustic flow rate reading is not taken and the reason for the lack of daily flow rate reading (e.g., the process did not operate that date).

(i) To document the compliance status with Condition D.1.10(b)(2), the Permittee shall maintain records of the daily pH readings of scrubber T-501. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of pH reading (e.g., the process did not operate that date).

(j) To document the compliance status with Condition D.1.10(c)(1), the Permittee shall maintain records of the daily caustic flow rate readings of scrubber V-510. The Permittee shall include in its daily record when a caustic flow rate reading is not taken and the reason for the lack of daily flow rate reading (e.g., the process did not operate that date).

(k) To document the compliance status with Condition D.1.10(c)(2), the Permittee shall maintain records of the daily pH readings of scrubber V-510. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of pH reading (e.g., the process did not operate that date).

(l) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.1.13 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Conditions D.1.2(a), D.1.2(b), D.1.2(c), D.1.2(d), and D.1.7 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION E.1 FACILITY OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) lube oil process, with a maximum capacity of 75 million gallons per year, and consisting of:

(1) One (1) Lube Oil Distillation Process, identified as P-400, used to remove water, light fuels, and heavy hydrocarbons from the used oil feed stream; producing two overhead streams, which include a water/light fuel stream and an off-gas stream, and byproducts vacuum lube oil and asphalt, consisting of:

(i) One (1) natural gas-fired boiler, identified as SB-201, constructed in 2012, with a maximum capacity of 16.74 MMBtu/hr, and exhausting through stack SB-201;

Under 40 CFR 60, Subpart Dc, SB-201 is considered an affected facility.

(b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in 2007, with a maximum capacity of 6,000 gallons per hour, processing mineral spirits to produce clean solvents, residue, and light fuel, utilizing no control devices, and exhausting to the ambient air, and consisting of:

(1) One (1) natural gas-fired boiler, identified as SB-200, with a maximum capacity of 14.645 MMBtu/hr, and exhausting through stack SB-200.

Under 40 CFR 60, Subpart Dc, SB-200 is considered an affected facility.

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

New Source Performance Standards (NSPS) Requirements: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) The Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12, for the natural gas-fired boilers SB-200 and SB-201 as specified in 40 CFR Part 60, Subpart Dc in accordance with the schedule in 40 CFR 60, Subpart Dc.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

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

E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment A) which are incorporated by reference as 326 IAC 12 for the natural gas-fired boilers SB-200 and SB-201:

(1) 40 CFR 60.40c(a), (b), and (i)
(2) 40 CFR 60.41(c)
(3) 40 CFR 60.48c(a), (g)(2), and (i)

SECTION E.2 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Compression Ignition (CI) Internal Combustion Engine (ICE)

(m) Activities associated with emergencies, including:

(1) Two (2) stationary fire pump engines, identified as FW-1 and FW-2, each with a maximum capacity of 300 Hp, combusting No. 2 fuel oil.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the stationary fire pump engines are considered affected facilities.

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

New Source Performance Standards (NSPS) Requirements: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) The Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12, for the compression ignition internal combustion engines as specified in Table 8 of 40 CFR Part 60, Subpart IIII in accordance with the schedule in 40 CFR 60, Subpart IIII.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

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

E.2.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included as Attachment B) which are incorporated by reference as 326 IAC 12 for the compression ignition internal combustion engines:

(1) 40 CFR 60.4200(a)(2)(ii), (c), and (d)
(2) 40 CFR 60.4205(c)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209(a)
(7) 40 CFR 60.4211(a), (f) and (g)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 4
(13) Table 8

SECTION E.3 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Reciprocating Internal Combustion Engine (RICE)

(m) Activities associated with emergencies, including:

(1) Two (2) stationary fire pump engines, identified as FW-1 and FW- 2, each with a maximum capacity of 300 Hp, combusting No. 2 fuel oil.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the stationary fire pump engines are considered affected facilities.

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

National Emissions Standards for Hazardous Air Pollutants (NESHAP) Requirements: Stationary Reciprocating Internal Combustion Engines

E.3.1 General Provisions Relating to National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.340(b), the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-82, for the reciprocating internal combustion engines as specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ in accordance with the schedule in 40 CFR 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.3.2 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment C) which are incorporated by reference as 326 IAC 20-82 for the reciprocating internal combustion engines:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6595(a)(7)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Heritage-Crystal Clean, LLC
Source Address: 3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-28484-00670

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:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Heritage-Crystal Clean, LLC
Source Address: 3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-28484-00670

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**) daytime 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 Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position:_____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name:	Heritage-Crystal Clean, LLC
Source Address:	3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.:	F097-28484-00670
Facility:	SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2
Parameter:	SO_2 Emissions
Limit:	Source-wide SO_2 emissions shall not exceed 99.67 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	SO2 (lbs/hr)
Boiler SB-200	0.01
Boiler SB-201	0.01
HT Heater 1 (H-500)	1.00
HT Heater 2 (H-501)	0.50
HT Heater 3 (H-502)	0.004
Vacuum Heater H-400 (Natural Gas)	0.25
Vacuum Heater H-400 (Off-Gas)	11.5
Dehydration Heater H-402	22.00
Back-up Dehydration Heater H-401	13.00
Fire Water Engine Pump 1 (FW-1)	0.62
Fire Water Engine Pump 2 (FW-2)	0.62

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide SO2 Emissions This Month	Source-wide SO2 Emissions Previous 11 Months	Source-wide SO2 Emissions 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: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name:	Heritage-Crystal Clean, LLC
Source Address:	3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.:	F097-28484-00670
Facility:	SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2
Parameter:	NOx Emissions
Limit:	Source-wide NOx emissions shall not exceed 98.23 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	NOx (lbs/hr)
Boiler SB-200	1.27
Boiler SB-201	0.59
HT Heater 1 (H-500)	2.50
HT Heater 2 (H-501)	1.25
HT Heater 3 (H-502)	0.15
Vacuum Heater H-400 (Natural Gas)	0.75
Vacuum Heater H-400 (Off-Gas)	0.75
Dehydration Heater H-402	17.00
Back-up Dehydration Heater H-401	10.00
Fire Water Engine Pump 1 (FW-1)	1.98
Fire Water Engine Pump 2 (FW-2)	1.98

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide NOx Emissions This Month	Source-wide NOx Emissions Previous 11 Months	Source-wide NOx Emissions 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: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name:	Heritage-Crystal Clean, LLC
Source Address:	3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.:	F097-28484-00670
Facility:	SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2
Parameter:	CO Emissions
Limit:	Source-wide CO emissions shall not exceed 98.74 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	CO (lbs/hr)
Boiler SB-200	0.23
Boiler SB-201	1.41
HT Heater 1 (H-500)	1.87
HT Heater 2 (H-501)	1.00
HT Heater 3 (H-502)	0.50
Vacuum Heater H-400 (Natural Gas)	1.65
Vacuum Heater H-400 (Off-Gas)	1.65
Dehydration Heater H-402	17.00
Back-up Dehydration Heater H-401	10.00
Fire Water Engine Pump 1 (FW-1)	1.71
Fire Water Engine Pump 2 (FW-2)	1.71

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide CO Emissions This Month	Source-wide CO Emissions Previous 11 Months	Source-wide CO Emissions 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: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name:	Heritage-Crystal Clean, LLC
Source Address:	3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.:	F097-28484-00670
Facility:	SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2
Parameter:	CO2e Emissions
Limit:	Source-wide CO2e emissions shall not exceed 99,900 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	CO2e (lbs/hr)
Boiler SB-200	1,768
Boiler SB-201	2,021
HT Heater 1 (H-500)	1,797
HT Heater 2 (H-501)	1,430
HT Heater 3 (H-502)	858
Vacuum Heater H-400 (Natural Gas)	3,574
Vacuum Heater H-400 (Off-Gas)	4,808
Dehydration Heater H-402	10,958
Back-up Dehydration Heater H-401	7,306
Fire Water Engine Pump 1 (FW-1)	346
Fire Water Engine Pump 2 (FW-2)	346

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide CO2e Emissions This Month	Source-wide CO2e Emissions Previous 11 Months	Source-wide CO2e Emissions 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: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Heritage-Crystal Clean, LLC
Source Address: 3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-28484-00670

Months: _____ **to** _____ **Year:** _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position:_____

Date:_____

Phone: _____

Mail to: Permit Administration & Support Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Heritage-Crystal Clean, LLC
3970 W. 10th Street
Indianapolis, Indiana 46222

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)

4. I hereby certify that Heritage-Crystal Clean, LLC 3970 W. 10th Street, Indianapolis, Indiana 46222, completed construction of the used oil and used solvent recycling and distribution facility on _____in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on September 18, 2009 and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F097-28484-00670, Plant ID No. 097-00670 issued on _____.

5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature_____
Date_____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana

on this _____ day of _____, 20 _____. My Commission expires: _____.

Signature_____
Name_____ (typed or printed)

Indiana Department of Environmental Management
Office of Air Quality

Attachment A

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO_2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

(e) Affected facilities (*i.e.* heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_x standards under this subpart and the SO_2 standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

§ 60.41c Definitions.

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

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see § 60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see § 60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see § 60.17).

Dry flue gas desulfurization technology means a SO_2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases

of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO_2 emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO_2 emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Wet flue gas desulfurization technology means an SO_2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2 .

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

§ 60.42c Standard for sulfur dioxide (SO_2).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2 emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO_2 emissions limit or the 90 percent SO_2 reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO_2 emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 50 percent (0.50) of the potential SO_2 emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO_2 reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in

excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area; or

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the following:

(1) The percent of potential SO_2 emission rate or numerical SO_2 emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s = SO_2 emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (1.2 lb/MMBtu);

K_b = 260 ng/J (0.60 lb/MMBtu);

K_c = 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2 emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2 emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or

greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under § 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2 emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2 emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and § 60.8, compliance with the percent reduction requirements and SO_2 emission limits under § 60.42c is based on the average percent reduction and the average SO_2 emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2 emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO_2 emission rate (E_{ho}) and the 30-day average SO_2 emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao} when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} (E_{ho} o) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted E_{ao} (E_{ao} o). The E_{ho} o is computed using the following formula:

$$E_{ho}o = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

E_{ho} o = Adjusted E_{ho} , ng/J (lb/MMBtu);

E_{ho} = Hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of § 60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the SO_2 emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO_2 emission rate is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

$\%P_s$ = Potential SO_2 emission rate, in percent;

$\%R_g$ = SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$ = SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$ ($\%R_g$ o) is computed from E_{ao} o from paragraph (e)(1) of this section and an adjusted average SO_2 inlet rate (E_{ai} o) using the following formula:

$$\%R_g o = 100\left(1 - \frac{E^{\circ}_{ao}}{E^{\circ}_{ai}}\right)$$

Where:

$\%R_g$ o = Adjusted $\%R_g$, in percent;

E_{ao} o = Adjusted E_{ao} , ng/J (lb/MMBtu); and

E_{ai} o = Adjusted average SO_2 inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ai} o, an adjusted hourly SO_2 inlet rate (E_{hi} o) is used. The E_{hi} o is computed using the following formula:

$$E_{hi}o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi} o = Adjusted E_{hi} , ng/J (lb/MMBtu);

E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in § 60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O_2) or carbon dioxide (CO_2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O_2 or CO_2 measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration

shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under § 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under § 60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2 (or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O2 (or CO_2), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in § 60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,* reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under § 60.43c(e)(4) shall follow the applicable procedures under § 60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO_2 emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2 concentrations and either O_2 or CO_2 concentrations at the outlet of the SO_2 control device (or the outlet of the steam generating unit if no SO_2 control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO_2 concentrations and either O_2 or CO_2 concentrations at both the inlet and outlet of the SO_2 control device.

(b) The 1-hour average SO_2 emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO_2 emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under § 60.13(h)(2). Hourly SO_2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO_2 CEMS at the inlet to the SO_2 control device shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted, and the span value of the SO_2 CEMS at the outlet from the SO_2 control device shall be 50 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO_2 CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2 input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO_2 at the inlet or outlet of the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and CO_2 measurement train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C

and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under § 60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under § 60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in § 60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in § 60.11 to demonstrate compliance with the applicable limit in § 60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in § 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in § 60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in § 60.45c(c). The CEMS specified in paragraph § 60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in § 60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2 , or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in § 60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in § 60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An owner or operator of an affected facility that is subject to an opacity standard in § 60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section § 60.48Da of this part.

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section § 60.48Da of this part.

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§ 60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under § 60.48c(c).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO_2 emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2 emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits in § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO_2 emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO_2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO_2 or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO_2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in § 60.42C to use fuel certification to demonstrate compliance with the SO_2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

Indiana Department of Environmental Management
Office of Air Quality

Attachment B

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of § 60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR

1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the FAHS; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§ 60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in § 60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in § 60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in § 60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must purchase diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under § 60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§ 60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in § 60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in § 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in § 60.4201(a) through (c) and § 60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in § 60.4201(d) and (e) and § 60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in § 60.4202 but does not meet all the emission standards for non-emergency engines in § 60.4201. The label must be added according to the

labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§ 60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§ 60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in § 60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(b) or § 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must comply by purchasing an engine certified to the emission standards in § 60.4204(b), or § 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in § 60.4204(c) or § 60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in § 60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in § 60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(e) or § 60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in § 60.4204(e) or § 60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in § 60.4212 or § 60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011]

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in § 60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in § 60.4204(a), § 60.4205(a), or § 60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in § 60.4204(a), § 60.4205(a), or § 60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) may follow the testing procedures specified in § 60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in § 60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in § 60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \% O_2} \qquad \text{(Eq. 3)}$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209_{H_i}}{F_c} \qquad \text{(Eq. 4)}$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 5)}$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \qquad \text{(Eq. 6)}$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 8)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§ 60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in § 60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§ 60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in § 60.4202 and § 60.4205, and not those for non-emergency engines in § 60.4201 and § 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in § 60.4201 and § 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of § 60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of § 60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and § 60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in § 60.4204 or § 60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to you.

§ 60.4219 What definitions apply to this subpart?

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

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using

all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see “date of manufacture”), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see “date of manufacture”).

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§ 60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	**Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)**				
	NMHC + NO_X	**HC**	**NO_X**	**CO**	**PM**
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		

130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in § 60.4202(a)(1), you must comply with the following emission standards]

	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
Engine power	**Model year(s)**	**NO_X+ NMHC**	**CO**	**PM**
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in § 60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	**Starting model year engine manufacturers must certify new stationary fire pump engines according to § 60.4202(d)[1]**
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§ 60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ [2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1] For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2] For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3] In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in § 60.4210(f) and the recordkeeping requirements in § 60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in § 60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed [1]	Torque (percent) [2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1] Engine speed: ±2 percent of point.

[2] Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[As stated in § 60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of	a. Reduce NO_X emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.

≥30 liters per cylinder				
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for NO_Xconcentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_Xconcentration.
		iv. Measure NO_Xat the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_Xconcentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_Xin the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurement for NO_Xconcentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_Xconcentration.
		iv. Measure NO_Xat	(4) Method 7E of 40	(d) NO_Xconcentration

		the exhaust of the stationary internal combustion engine	CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.

		sampling port location; and		
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in § 60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions	Yes	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4219.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction or modification	Yes	
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	Yes	Except that § 60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	
§ 60.17	Incorporations by reference	Yes	

§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting requirements	Yes	

Indiana Department of Environmental Management
Office of Air Quality

Attachment C

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of § 63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of § 63.6645(f) and the requirements of §§ 63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in § 63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 1)}$$

Where:

C_i = concentration of CO or formaldehyde at the control device inlet,

C_o = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209\, F_d}{F_c} \qquad \text{(Eq. 2)}$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 3)}$$

Where:

X_{co2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_X and SO_2 gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \qquad \text{(Eq. 4)}$$

Where:

$\%CO_2$ = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO_2 at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in § 63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in § 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in § 63.8(d). As specified in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also § 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or

percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These

deviations must be reported according to the requirements in § 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to

generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in § 63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in § 63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with § 63.6590(b), your notification should include the information in § 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in § 63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to § 63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in § 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an

affected source to minimize emissions in accordance with § 63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in § 63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in § 63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in § 63.6600 under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in § 63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2 .

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under § 63.6640(f). All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2 .

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X , CO, and volatile organic compounds (VOC) into CO_2 , nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in § 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to § 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to § 63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8 .

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's

recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

Table 1 a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE > 500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1 b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§ 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O2 and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and using NSCR.	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of	Comply with any operating limitations approved by the Administrator.

formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O2 and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and not using NSCR.	

[76 FR 12867, Mar. 9, 2011]

Table 2 a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2 b to Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§ 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 2 c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤ 500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤ 500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE. [1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE < 100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; [2]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100 ≤ HP ≤ 300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2	
4. Non-Emergency, non-black start CI stationary RICE 300 < HP ≤ 500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes	

	first; [2]	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE < 100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [2]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE < 100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; [2]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100 ≤ HP ≤ 500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2	
10. Non-emergency, non-black start 4SLB stationary RICE 100 ≤ HP ≤ 500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2	
11. Non-emergency, non-black start 4SRB stationary RICE 100 ≤ HP ≤ 500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2	

12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100 ≤ HP ≤ 500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

Table 2 d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§ 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤ 300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; [1]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

2. Non-Emergency, non-black start CI stationary RICE 300 <HP≤ 500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE > 500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE > 500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE > 500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [1] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs	

	every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤ 500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE > 500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤ 500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE > 500 HP	a. Limit concentration of formaldehyde in the	

	stationary RICE exhaust to 2.7 ppmvd at 15 percent O_2; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; [1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§ 63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower > 500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥ 250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower > 500 located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]

2. 4SRB stationary RICE with a brake horsepower ≥ 5,000 located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE with a brake horsepower > 500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250 ≤ HP ≤ 500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower > 500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower > 500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower > 500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower > 500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

[1] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§ 63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O_2 at the inlet and outlet of the control device; and	(1) Portable CO and O_2 analyzer	(a) Using ASTM D6522-00 (2005) [a] (incorporated by reference, see § 63.14). Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O_2 analyzer	(a) Using ASTM D6522-00 (2005) [a b] (incorporated by reference, see § 63.14) or Method 10 of 40 CFR

				appendix A. The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00m (2005)	(a) Measurements to determine O_2concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03,[c]provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (2005)	(a) Measurements to determine O_2concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results

		stationary RICE; or	D6348-03,[c]provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (2005),[a]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03	(a) CO Concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour longer runs.

[a] You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

[b] You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.

[c] You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[75 FR 51597, Aug. 20, 2010]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§ 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.

2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at both the inlet and outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using § 63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is

		based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at the outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using § 63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of formaldehyde and not using NSCR	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and

		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
13. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

[76 FR 12867, Mar. 9, 2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in § 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; [a]and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; [a]and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to § 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to § 63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-

non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year		hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; [a]and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling

		averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; [a]and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as

24 hours per calendar year and are not limited use stationary RICE	exhaust, and using oxidation catalyst or NSCR	appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to

		§ 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[a] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[76 FR 12870, Mar. 9, 2011]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in § 63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit the report ...
1. Existing non-emergency, non-black start stationary RICE 100 ≤ HP ≤ 500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE > 500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE > 500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE > 300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE > 500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE > 500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤ HP ≤ 500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in § 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), the information in § 63.6650(e); or c. If you had a malfunction during the reporting period, the information in § 63.6650(c)(4)	i. Semiannually according to the requirements in § 63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in § 63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations. i. Semiannually according to the requirements in § 63.6650(b). i. Semiannually according to the requirements in § 63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in § 63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.

[75 FR 51603, Aug. 20, 2010]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in § 63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.1	General applicability of the General Provisions	Yes.	
§ 63.2	Definitions	Yes	Additional terms defined in § 63.6675.
§ 63.3	Units and abbreviations	Yes.	
§ 63.4	Prohibited activities and circumvention	Yes.	
§ 63.5	Construction and reconstruction	Yes.	
§ 63.6(a)	Applicability	Yes.	
§ 63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§ 63.6(b)(5)	Notification	Yes.	
§ 63.6(b)(6)	[Reserved]		
§ 63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§ 63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§ 63.6(c)(3)-(4)	[Reserved]		
§ 63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§ 63.6(d)	[Reserved]		
§ 63.6(e)	Operation and maintenance	No.	
§ 63.6(f)(1)	Applicability of standards	No.	
§ 63.6(f)(2)	Methods for determining compliance	Yes.	
§ 63.6(f)(3)	Finding of compliance	Yes.	
§ 63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§ 63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§ 63.6(i)	Compliance extension procedures and criteria	Yes.	

§ 63.6(j)	Presidential compliance exemption	Yes.	
§ 63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§ 63.6610, 63.6611, and 63.6612.
§ 63.7(a)(3)	CAA section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes	Except that § 63.7(b)(1) only applies as specified in § 63.6645.
§ 63.7(b)(2)	Notification of rescheduling	Yes	Except that § 63.7(b)(2) only applies as specified in § 63.6645.
§ 63.7(c)	Quality assurance/test plan	Yes	Except that § 63.7(c) only applies as specified in § 63.6645.
§ 63.7(d)	Testing facilities	Yes.	
§ 63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at § 63.6620.
§ 63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at § 63.6620.
§ 63.7(e)(3)	Test run duration	Yes.	
§ 63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§ 63.7(f)	Alternative test method provisions	Yes.	
§ 63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§ 63.7(h)	Waiver of tests	Yes.	
§ 63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at § 63.6625.
§ 63.8(a)(2)	Performance specifications	Yes.	
§ 63.8(a)(3)	[Reserved]		
§ 63.8(a)(4)	Monitoring for control devices	No.	
§ 63.8(b)(1)	Monitoring	Yes.	
§ 63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§ 63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§ 63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§ 63.8(c)(1)(ii)	SSM not in Startup Shutdown	Yes.	

	Malfunction Plan		
§ 63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§ 63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§ 63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§ 63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§ 63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§ 63.8(d)	CMS quality control	Yes.	
§ 63.8(e)	CMS performance evaluation	Yes	Except for § 63.8(e)(5)(ii), which applies to COMS.
		Except that § 63.8(e) only applies as specified in § 63.6645.	
§ 63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that § 63.8(f)(4) only applies as specified in § 63.6645.
§ 63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that § 63.8(f)(6) only applies as specified in § 63.6645.
§ 63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§ 63.6635 and 63.6640.
§ 63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§ 63.9(b)(1)-(5)	Initial notifications	Yes	Except that § 63.9(b)(3) is reserved.
		Except that § 63.9(b) only applies as specified in § 63.6645.	
§ 63.9(c)	Request for compliance extension	Yes	Except that § 63.9(c) only applies as specified in § 63.6645.
§ 63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that § 63.9(d) only applies as specified in § 63.6645.
§ 63.9(e)	Notification of performance test	Yes	Except that § 63.9(e) only applies

			as specified in § 63.6645.
§ 63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.9(g)(1)	Notification of performance evaluation	Yes	Except that § 63.9(g) only applies as specified in § 63.6645.
§ 63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that § 63.9(g) only applies as specified in § 63.6645.	
§ 63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. § 63.9(h)(4) is reserved.
			Except that § 63.9(h) only applies as specified in § 63.6645.
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in previous information	Yes.	
§ 63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§ 63.10(b)(1)	Record retention	Yes.	
§ 63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§ 63.10(b)(2)(vi)-(xi)	Records	Yes.	
§ 63.10(b)(2)(xii)	Record when under waiver	Yes.	
§ 63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§ 63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§ 63.10(b)(3)	Records of applicability determination	Yes.	
§ 63.10(c)	Additional records for sources using CEMS	Yes	Except that § 63.10(c)(2)-(4) and (9) are reserved.
§ 63.10(d)(1)	General reporting requirements	Yes.	
§ 63.10(d)(2)	Report of performance test results	Yes.	

§ 63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.10(d)(4)	Progress reports	Yes.	
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§ 63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§ 63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§ 63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that § 63.10(e)(3)(i) (C) is reserved.
§ 63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§ 63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§ 63.11	Flares	No.	
§ 63.12	State authority and delegations	Yes.	
§ 63.13	Addresses	Yes.	
§ 63.14	Incorporation by reference	Yes.	
§ 63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

Source Description and Location

Source Name:	**Heritage-Crystal Clean, LLC**
Source Location:	**3970 West 10th Street, Indianapolis, IN 46222**
County:	**Marion**
SIC Code:	**2992 (Lubricating Oils and Greases)**
Operation Permit No.:	**F097-28484-00670**
Operation Permit Issuance Date:	**June 24, 2010**
Significant Permit Revision No.:	**F097-31757-00670**
Permit Reviewer:	**Jason R. Krawczyk**

On April 18, 2012, the Office of Air Quality (OAQ) received an application from Heritage-Crystal Clean, LLC related to a modification to an existing used oil and used solvent recycling and distribution facility.

Existing Approvals

The source was issued FESOP No. 097-28484-00670 on June 24, 2010. The source has since received Administrative Amendment No. 097-31350-00670, issued on January 25, 2012.

County Attainment Status

The source is located in Marion County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O_3	Attainment effective November 8, 2007, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.

[1]Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005.
Basic nonattainment designation effective federally April 5, 2005, for PM2.5.

(a) Ozone Standards
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 ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Marion County has been classified as nonattainment for $PM_{2.5}$ in 70 FR 943 dated January 5, 2005. On May 8, 2008, U.S. EPA promulgated specific New Source Review rules for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Marion County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

This source is not considered a chemical process plant since its standard industrial code (SIC) code does not fall under major source code 28.

This source is not considered a petroleum refinery since it does not utilize unfinished petroleum derivatives. In addition, the used lubricating oils to be processed at this source do not meet the NSPS definition found in 40 CFR 60.101(b) of "petroleum", which includes crude oil removed from the earth and the oils derived from tar sands, shale and coal.

Status of the Existing Source

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

This PTE of PM, PM_{10}, $PM_{2.5}$, SO_2, NOx, VOC, CO, and HAPs is from the TSD of New Source Construction and FESOP F097-28484-00670, issued on June 24, 2010.

The PTE of GHG as CO_2e is from Appendix A of FESOP Administrative Amendment 097-31350-00670, issued January 25, 2012.

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)									
	PM	PM10[A]	PM2.5	SO_2	NOx	VOC	CO	GHG as CO2e[B]	Total HAPs	Worst Single HAP
H-500, H-501, & H-502 Nat. Gas Combustion	0.20	0.81	0.81	0.06	2.65	0.58	8.90	12,797	0.20	0.19 Hexane
SB-200 Nat. Gas Combustion	0.12	0.49	0.49	0.04	6.22	0.35	5.39	7,747	0.12	0.12 Hexane
SB-201 Nat. Gas Combustion	0.14	0.54	0.54	0.04	2.50	0.39	6.01	8,635	0.13	0.13 Hexane
Vacuum Heater (H-400)[D]										
Natural Gas Combustion	0.10	0.39	0.39	29.40	22.01	0.27	4.13	5,933	0.09	0.09 Hexane
Process Off-Gas Combustion	0.08	0.23	0.23			0.14	2.19	4,360	0.05	0.05 Hexane
Dehydration Heater (H-401)										
Natural Gas Combustion	0.09	0.37	0.37	50.27	53.00	0.27	4.13	5,933	0.09	0.09 Hexane
Vaporized Distillate Combustion	1.27	1.27	1.27			0.13	3.17	14,170	0.27	0.14 Chloride
Process Off-Gas Combustion	negl.	0.01	0.01			negl.	0.07	141	negl.	negl.
Used Solvent Transfer Operations (P-200)	-	-	-	-	-	5.33	-	-	2.40	0.88 Ethylene Glycol
Combined Clean Mineral Spirits (P-100)	-	-	-	-	-	2.75	-	-	-	-
Mineral Spirits Drip Tray Evaporation	-	-	-	-	-	0.19	-	-	-	-
Lube Oil Transfer Operations (P-400)	-	-	-	-	-	0.37	-	-	0.37	negl.
Tanks	-	-	-	-	-	0.98	-	-	0.98	neg.
Lube Oil Hydrotreating Unit (P-500)	-	-	-	-	-	0.13	-	-	-	-
Cooling Towers	2.53	2.53	2.53	-	-	-	-	-	-	-
Fire Water Pump Engine 1	0.17	0.17	0.17	0.15	2.33	0.19	0.50	87	negl.	negl.
Fire Water Pump Engine 2	0.17	0.17	0.17	0.15	2.33	0.19	0.50	87	negl.	negl.
Roadways (Fugitive)[C]	13.23	2.58	0.39	-	-	-	-	-	-	-
Total PTE of Entire Source	**4.85**	**6.94**	**6.94**	**80.13**	**91.04**	**12.27**	**34.98**	**59,888**	**4.71**	**0.88** Ethylene Glycol
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	NA	250	250	250	250	100,000	NA	NA
Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA	NA

negl. = negligible

A Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

B The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

C Fugitive Emissions are not counted towards Part 70 applicability.

D SO2 emissions from combustion of a combination of process fuels and natural gas. At times of start-up and shut-down for H-400, process fuels may be combusted in H-500.

Note: Natural gas combustion for H-500 is included under miscellaneous Nat. Gas Combustion. Emissions calculations were not performed for H-500 when combusting process off-gas, because process off-gas can only be combusted in H-500 during periods of startup and shutdown of H-400. Therefore; there will be no increase in emissions since the process off-gas will only be combusted in one of the heaters at a time.

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3), because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.

(c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the unlimited potential to emit HAPs are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Heritage-Crystal Clean, LLC on April 18, 2012, relating to:

(a) The increase in throughput through the lube oil process from 50 million gallons per year to 75 million gallons per year;

(b) The replacement of Heater H-401 (36 MMBtu/hr) with Heater H-402 (60 MMBtu/hr) as the primary Dehydration Heater. The 60 MMBtu/hr capacity is the total capacity for natural gas, vaporized distillate and off gas;

Heater H-401 will not be removed from the source and will be limited to use only during instances of H-402 downtime, serving as a backup. H-401 will be maintained in the permit. The limited PTE of the entire source will be based on the scenario that only one Dehydration heater will be used at a time.

(c) The increase in the heat input capacity of H-400 from 17.9 MMBtu/hr to 25 MMBtu/hr (natural gas and off gas total capacity) by installing larger heater registers or replacing the heater entirely with a larger unit;

(d) The increase in the heat input capacity of H-401 from 33.00 MMBtu/hr to 36.00 MMBtu/hr (natural gas and off gas total capacity).

(e) The increase in the heat input capacity of H-500 from 8.3 MMBtu/hr to 14 MMBtu/hr (natural gas and off gas total capacity) by installing larger heater registers or replacing the heater entirely with a larger unit;

(f) The increase in the heat input capacity of H-501 from 8.7 MMBtu/hr to 10 MMBtu/hr (natural gas and off gas total capacity).

(g) The correction of the heat input capacity of natural gas-fired boiler SB-201 from 16.33 MMBtu/hr to 16.74 MMBtu/hr.

(h) The modification in method of operation to reroute the VLO off-gas stream, which is currently routed to Heaters H-400 and H-401/H-402, to be primarily routed H-401/H-402 and to be routed to H-400, H-500 and H-501 during start-up and shutdown of H-401/H-402.

(i) The modification in method of operation to reroute the HT off-gas stream, which is currently routed to Heater H-400, to Heaters H-500 and H-501. Two-thirds of the flow would be routed to H-500 and one-third would be routed to H-501. The existing HT off-gas routing to H-400 would remain, so that H-400 could be used as a back-up during HT start of run reactor conditions and HT startup and shutdown. In addition, the HT off-gas stream would have the ability to be routed to Heater H-401/H-402 during HT start of run reactor conditions and HT startup and shutdown.

(j) The addition of one (1) caustic scrubber, identified as V-510, to remove H_2S from the HT off-gas stream prior to combustion in Heaters H-500 and H-501.

(k) The addition of nine (9) miscellaneous storage tanks, identified as Tanks 42 through 50;

(l) The removal of one (1) storage tank, identified as Tank 20;

(m) The correction of the identification of the one (1) low pressure caustic flash drum from V-503 to V-502;

(n) The addition of one (1) air dryer, identified as T-503, used to cool and dry the steam bottoms product, which will exhaust through stack T-503;

(o) Changes to throughput and service for certain existing tanks:

(1) Tank 7 will no longer be storing HT Fuel and will store Non-Haz Waste 142;

(2) Tank 37 will no longer be storing Used Oil and will store Asphalt; and

(3) Tank 38 will no longer be storing Used Oil and will store VLO.

(p) The revision and addition of FESOP limits;

(q) The revision of compliance monitoring and compliance determination requirements; and

(r) The correction of the source's SIC code from primary code 4212 (Local Trucking without Storage) and secondary code 5084 (Industrial Machinery and Equipment) to primary code 2992 (Lubricating Oils and Greases).

The following is a list of the new emission units and pollution control devices:

(a) One (1) dehydration heater, approved for construction in 2012, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-402, with a maximum capacity of 60 MMBtu/hr, and exhausting through stack H-402.

(b) Miscellaneous storage tanks, approved for construction in 2012, including:

Tank ID	Tank Contents	Nominal Capacity (gal)
Tank 42	HT Water	30,000
Tank 43	HT Fuel	30,000
Tank 44	HT Fuel	30,000
Tank 45	Spent Caustic	30,000
Tank 46	Used Oil	30,000
Tank 47	Used Oil	30,000
Tank 48	Light Fuel	30,000
Tank 49	Light Fuel	30,000
Tank 50	Non-Haz Waste 142	22,500

(c) One (1) air dryer, identified as T-503, used to cool and dry the steam stripper bottoms product, exhausting through stack T-503.

The following is a list of the modified emission units and pollution control devices:

(a) One (1) vacuum heater, constructed in 2010, approved for modification in 2012, fueled by natural gas during normal operation and process stream off-gases during start-up or shut-down of H-

401/H-402, H-500, or H-501 or during HT start of run conditions, identified as H-400, with a maximum capacity of 25.00 MMBtu/hr, and exhausting through stack H-400.

(b) One (1) back-up dehydration heater, constructed in 2010, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-401, with a maximum capacity of 36.0 MMBtu/hr, and exhausting through stack H-401. H-401 will be used only during instances of H-402 downtime.

(c) One (1) process heater, constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up or shut-down of H-401/H-402, identified as H-500, with a nominal rating of 14.00 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-500;

(d) One (1) process heater, constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up and shutdown of H-401/H-402, identified as H-501, with a nominal rating of 10.00 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-501;

(e) Miscellaneous storage tanks, approved for modification in 2012, including:

Tank ID	Tank Contents	Nominal Capacity (gal)
Tank 7	Non-Haz Waste 142	71,000
Tank 37	Asphalt	1,000,000
Tank 38	VLO	1,000,000

The following is a list of emission units removed from the source:

(a) Miscellaneous storage tank(s) including:

Tank ID	Tank Contents	Nominal Capacity (gal)
Tank 20	Asphalt	75,000

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e	Total HAPs	Worst Single HAP
Source-wide PTE Before Proposed Revision	4.85	6.94	6.94	80.13	91.04	12.27	34.98	59,888	4.71	0.88 Ethylene Glycol
Source-wide PTE After Proposed Revision	8.20	10.81	10.81	99.67	98.23	13.43	98.74	99,900	6.33	0.88 Ethylene Glycol
Total PTE of Proposed Revision	**3.35**	**3.87**	**3.87**	**19.54**	**7.19**	**1.16**	**63.76**	**40,012**	**1.62**	**-**

This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(g) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see PTE of the Entire Source After Issuance of the FESOP Revision section).

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of the FESOP Revision (tons/year)									
	PM	PM10[B]	PM2.5	SO_2	NOx	VOC	CO	GHG as CO2e[C]	Total HAPs	Worst Single HAP
SB-200 Nat. Gas Combustion	0.12	0.49	0.49			0.35			0.12	0.12 Hexane
SB-201 Nat. Gas Combustion	0.14	0.56	0.56			0.40			0.14	0.13 Hexane
HT Heater 1 (H-500)										
Natural Gas Combustion	0.07	0.30	0.30			0.22			0.07	0.07 Hexane
Process Off-Gas Combustion	0.07	0.19	0.19			0.12			0.04	0.04 Hexane
HT Heater 2 (H-501)										
Natural Gas Combustion	0.06	0.23	0.23			0.17			0.06	0.06 Hexane
Process Off-Gas Combustion	0.04	0.11	0.11			0.07			0.02	0.02 Hexane
HT Heater 3 (H-502) Nat. Gas Combustion	0.05	0.20	0.20			0.14			0.05	0.05 Hexane
Vacuum Heater (H-400)[A]										
Natural Gas Combustion	0.21	0.83	0.83			0.60			0.21	0.20 Hexane
Process Off-Gas Combustion	**0.33**	**0.95**	**0.95**	<99.67	<98.23	**0.60**	<98.74	<99,900	**0.21**	**0.20 Hexane**
Dehydration Heater (H-402)										
Natural Gas Combustion	0.07	0.30	0.30			0.22			0.07	0.07 Hexane
Vaporized Distillate Combustion	2.82	2.82	2.82			0.28			0.85	0.49 Chloride
Process Off-Gas Combustion	0.08	0.23	0.23			0.14			0.05	0.05 Hexane
Back-up Dehydration Heater (H-401)										
Natural Gas Combustion	0.03	0.13	0.13			0.10			0.03	0.03 Hexane
Vaporized Distillate Combustion	1.75	1.75	1.75			0.18			0.53	0.30 Chloride
Process Off-Gas Combustion	0.05	0.15	0.15			0.10			0.03	0.03 Hexane
Fire Water Pump Engine 1	0.02	0.02	0.02			0.19			Negl.	Negl.
Fire Water Pump Engine 2	0.02	0.02	0.02			0.19			Negl.	Negl.
Used Solvent Transfer Operations (P-200)	-	-	-	-	-	5.33	-	-	2.40	0.88 Ethylene Glycol
Combined Clean Mineral Spirits (P-100)	-	-	-	-	-	2.75	-	-	-	-
Mineral Spirits Drip Tray Evaporation	-	-	-	-	-	0.19	-	-	-	-
Lube Oil Transfer Operations (P-400)	-	-	-	-	-	0.56	-	-	0.56	Negl.
Tanks	-	-	-	-	-	1.12	-	-	1.12	Negl.
Lube Oil Hydrotreating Unit (P-500)	-	-	-	-	-	0.13	-	-	-	-
Cooling Towers	2.53	2.53	2.53	-	-	-	-	-	-	-
Roadways (Fugitive)[D]	16.36	3.19	0.48	-	-	-	-	-	-	-
Total PTE of Entire Source	8.27	11.00	11.00	<99.67	<98.23	13.55	<98.74	<99,900	6.37	0.88 Ethylene Glycol
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of the FESOP Revision (tons/year)									
	PM	PM10[B]	PM2.5	SO_2	NOx	VOC	CO	GHG as CO2e[C]	Total HAPs	Worst Single HAP
PSD Major Source Thresholds	250	250	NA	250	250	250	250	100,000	NA	NA
Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA	NA

Negl. = negligible

A Vacuum Heater H-400 is primarily fueled by natural gas during periods of normal operation and process stream off-gasses during periods of start-up and shut-down for H-401/H-402. Therefore, only the **worst-case** potential to emit is included in the total PTE.

B Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

C The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

D Fugitive Emissions are not counted towards Part 70 applicability.

(a) FESOP Status

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP) and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable, the source shall comply with the following:

(a) Source-wide SO2 emissions shall not exceed 99.67 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Source-wide NOx emissions shall not exceed 98.23 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) Source-wide CO emissions shall not exceed 98.74 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Source-wide CO2e emissions shall not exceed 99,900 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) Pound per hour emissions shall not exceed the thresholds identified in the table below:

Emission Unit ID	SO2 Limit (lbs/hr)	NOx Limit (lbs/hr)	CO Limit (lbs/hr)
HT Heater 1 (H-500)	1.00	2.50	1.87
HT Heater 2 (H-501)	0.50	1.25	1.00
Vacuum Heater H-400 (Off-Gas)	11.5	0.75	1.65
Dehydration Heater H-402	22.00	17.00	17.00
Back-up Dehydration Heater H-401	13.00	10.00	10.00

Compliance with these SO2, NOx, and CO limits, combined with the potential to emit SO2, NOx, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of SO2, NOx, and CO to less than 100 tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with the CO2e limit, combined with the potential to emit CO2e from all other emission units at this source, shall limit the source-wide total potential to emit of CO2e to less than 100,000 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Note:
The SO2 and NOx limits are revised emissions limits due to the proposed revision. The CO and CO2e limits are new applicable requirements. These are considered Title I changes.

(b) PSD Minor Source
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit SO2 will continue to be limited to less than 250 tons per year and the potential to emit all other attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Note:
Emission factors determined from testing vacuum heater H-400 and dehydration heater H-401 on February 7, 2012 were used to determine the potential emissions from the modified units that will be combusting off-gases. Based on these applied emission factors, the source does not have the potential to emit (PTE) greater than two-hundred fifty (250) tons of SO2 per twelve (12) consecutive month period. Each of these modified units is required to be stack tested. Upon completion of the stack testing requirements, if it is determined the source's PTE SO2 is less than two-hundred fifty (250) tons per twelve (12) consecutive month period, the PSD minor limits may be removed from the permit through a permit revision.

(c) Emission Offset Minor Source
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standard for 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, 40 CFR 60, Subpart Kb (326 IAC 12), are not included in the permit, since each storage vessel with a capacity greater than or equal to 151 m^3 (39,890 gallons) stores a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) and each storage vessel with a capacity greater than or equal to 75 m^3 (19,813 gallons) but less than 151 m^3 (39,890 gallons) stores a liquid with a maximum true vapor pressure less than 15.0 kPa. Therefore, the requirements of 40 CFR 60, Subpart Kb are not included in the permit.

(b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

(d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

(a) 326 IAC 1-7 (Stack Height Provisions)
Pursuant to 326 IAC 1-7, the source shall comply with 326 IAC 1-7-3 for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

(b) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision section above.

(c) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision section above.

(d) 326 IAC 2-3 (Emission Offset) and 326 IAC 2-1.1-5 (Nonattainment New Source Review)
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision section above.

This modification to an existing minor stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review) will not change the minor status, because the potential to emit of PM2.5 from the entire source will continue to be less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision section above.

(e) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the new/modified units is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.

(f) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte

County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

(g) 326 IAC 5-1 (Opacity Limitations)
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 permit:

(1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) 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.

(h) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

(i) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This revision will not cause the potential to emit fugitive particulate emissions to be greater than twenty-five (25) tons per year. Therefore the requirements of 326 IAC 6-5 are not applicable.

(j) 326 IAC 6.5-1 (Particulate Matter Limitations Except Lake County)
The source is not specifically listed in 326 IAC 6.5-6 and does not have the potential to emit greater than ten (10) tons of particulate matter. Therefore, the source is not subject to the requirements of 326 IAC 6.5.

(k) 326 IAC 8-1-6 (New Facilities; general reduction requirements)
No facility at the source has the potential to emit greater than twenty-five (25) tons per year of VOC. Therefore, each facility at the source is not subject to the requirements of 326 IAC 8-1-6 (VOC BACT).

(l) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(m) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

<u>Indirect-fired Boilers and Process Heaters</u>

(n) 326 IAC 6-2-1 (Particulate Emissions Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), the boilers SB-200 and SB-201, vacuum heater H-400, process heaters H-500, H-501, and H-502, and dehydration heaters H-401 and H-402, which were or will be installed after September 21, 1983 and are a source of indirect heating, shall comply with the requirements of 326 IAC 6-2-4.

(1) Pursuant to 326 IAC 6-2-4, particulate emissions from boilers SB-200 and SB-201, vacuum heater H-400, process heaters H-500, H-501, and H-502, and dehydration heaters H-401 and H-402, shall not exceed the pounds per MMBtu heat input emission limits, as listed in the table below:

Year Constructed	Emission Unit	Maximum Capacity of Boilers Constructed (MMBtu/hr)	Total Source Operating Capacity at the time of construction (MMBtu/hr) (Q)	PM Emission Limitation for each boiler (lbs/MMBtu) (Pt)
2007	SB-200	14.645	14.645	0.54
2010	H400 H-401	17.90 33.00	65.545	0.37
2011	H-500 H-501 H-502	8.30 8.70 6.00	88.545	0.34
2012*	SB-201 H-400 H-402 H-401 H-500 H-501	16.74 25.00 (17.90) 60.00 36.00 (33.00) 14.00 (8.30) 10.00 (8.70)	182.385	0.28

Note:
*H-400, H-401, H-500, and H-501 were modified in 2012 to increase the capacities of each heater. Therefore, the Total Source Operating Capacity at the time of construction (Q) accounts for the increase in MMBtu/hr for each unit.

The increase in the Q value for H-400 is 2.10 (25.00 - 17.90 = 7.10)

The increase in the Q value for H-401 is 3.00 (36.00 - 33.00 = 3.00)

The increase in the Q value for H-500 is 3.70 (14.00 - 8.30 = 5.70)

The increase in the Q value for H-501 is 1.30 (10.00 - 8.70 = 1.30)

Parenthesis "( )" denote what the previous Q value for the unit was.

These limitations are based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

Note:
This is a Title I change. The PM emissions limits have been re-evaluated due to either increase of the capacities of the units or removal of units.

(o) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
Dehydration Heater H-402 and Vacuum Heater H-400 are subject to 326 IAC 7-1.1 because each has potential SO_2 emissions of greater than 25 tons per year. Pursuant to this rule, sulfur dioxide emissions from H-402 and H-400, shall each be limited to five-tenths (0.5) pounds per million Btu (MMBtu) for distillate oil combustion and one and six-tenths (1.6) pounds per MMBtu for residual oil combustion.

Although the calculated potential to emit for Back-up Dehydration Heater H-401 shows a PTE of SO_2 less than 25 tons per year, when using the emission factor determined through the February 7, 2012 stack test, the source has requested a lb/hr SO_2 limit that could potentially allow annual SO_2 emissions to exceed 25 tons. Therefore the requirements of 326 IAC 7-1.1 will remain in the permit for H-401 and the sulfur dioxide emissions from H-401 shall be limited to five-tenths (0.5) pounds per million Btu (MMBtu) for distillate oil combustion and one and six-tenths (1.6) pounds per MMBtu for residual oil combustion.

Boiler SB-200, Boiler SB-201, HT Heater 1 (H-500), HT Heater 2 (H-501), and HT Heater 3 (H-502) each have potential SO_2 emissions of less than 25 tons per year. Therefore the requirements of 326 IAC 7-1.1 are not applicable to these units.

(p) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)
Pursuant to 326 IAC 7-2-1, the source shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO_2 per MMBtu), for H-400, H-401, and H-402 to the OAQ upon request.

Storage Tanks

(q) 326 IAC 8-1-6 (New Facilities; general reduction requirements)
The proposed revision is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each new and modified tank is less than twenty-five (25) tons per year.

(r) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
This source is located in Marion County and has petroleum liquid storage vessels (storage tanks) with capacities greater than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons); however, the volatile organic compounds stored do not have a true vapor pressure greater than 10.5 kPa (1.52 psi). Therefore the requirements of 326 IAC 8-4-3 are not applicable to the storage tanks.

(s) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
The storage tanks are not subject to this rule since this source is not located in Clark, Floyd, Lake, or Porter Counties.

Compliance Determination, Monitoring and Testing Requirements

(a) The compliance determination and monitoring requirements applicable to this proposed revision are as follows:

Emission Unit	Parameter	Frequency	Range	Excursions / Exceedances
H-402	Visible Emissions	Daily	Normal - Abnormal	Response Steps
H-500	Visible Emissions	Daily	Normal - Abnormal	
H-501	Visible Emissions	Daily	Normal - Abnormal	

(b) The testing requirements applicable to this proposed revision are as follows:

Emission Unit / Stack ID	Timeframe for Testing	Parameter	Frequency of Testing
H-400	Not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670	SO2 NOx CO	Once every five (5) years
H-401	Not later than 180 days after issuance of this permit revision, Permit No.: 097-31757-00670	CO	
H-402	Not later than 180 days after initial start-up	SO2 NOx CO	
H-500	Not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670	SO2 NOx CO	
H-501	Not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670	SO2 NOx CO	
SB-200	Not later than 180 days after issuance of this permit revision, Permit No.: 097-31757-00670	CO	One-time Emission Factor Verification Testing

Note:
The CO testing requirements are new applicable due to the addition in this revision of CO emissions limits.

Stack testing is not being required to verify compliance with the lb/hr emission limits for Boiler SB-200, Boiler SB-201, Vacuum Heater 3 (H-502), Fire Water Engine Pump 1, or Fire Water Engine Pump 2, since the potential to emit calculations, using AP-42 emission factors or previously accepted manufacturer data, show these units are capable of complying with the emission limits.

The existing compliance requirements will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in FESOP No: F097-28484-00670, issued on June 24, 2010.

Proposed Changes

(a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

...

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary used oil and used solvent recycling and distibution facility.

Source Address: 3970 W. 10th Street, Indianapolis, IN 46222
General Source Phone Number: (317) 486-0620
SIC Code: ~~4212 / 5084~~ **2992 (Lubricating Oils and Greases)**
...

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

(a) One (1) lube oil process, ~~approved for construction in 2010,~~ with a maximum capacity of ~~50~~ **75** million gallons per year, and consisting of:

(1) One (1) Lube Oil Distillation Process, identified as P-400, used to remove water, light fuels, and heavy hydrocarbons from the used oil feed stream; producing two

overhead streams, which include a water/light fuel stream and an off-gas stream, and byproducts vacuum lube oil and asphalt, consisting of:

(i) One (1) natural gas-fired boiler, identified as SB-201, ~~approved for construction in 2009~~ **constructed in 2012**, with a maximum capacity of 16.~~33~~**74** MMBtu/hr, and exhausting through stack SB-201;

Under 40 CFR 60, Subpart Dc, SB-201 is considered an affected facility.

(ii) One (1) vacuum heater, **constructed in 2010, approved for modification in 2012,** fueled by ~~a combination of~~ natural gas **during normal operation,** and process stream off-gases **during start-up or shut-down of H-401/H-402, H-500, or H-501 or during HT start of run conditions**, identified as H-400, with a maximum capacity of ~~17.90~~ **25.00** MMBtu/hr, and exhausting through stack H-400;

(iii) One (1) dehydration heater, approved for construction in 2012, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-402, with a maximum capacity of 60 MMBtu/hr, and exhausting through stack H-402;

(iv)~~(iii)~~ One (1) **back-up** dehydration heater, **constructed in 2010,** fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, ~~and~~ sour water **and HT off-gas during HT start of run reactor conditions and HT startup and shutdown**, identified as H-401, with a maximum capacity of ~~33~~**36**.0 MMBtu/hr, and exhausting through stack H-401. **H-401 will be used only during instances of H-402 downtime.**

(v)~~(iv)~~ One (1) caustic scrubber, identified as V-403, used to remove H_2S from P-400 and MS142 off-gasses, prior to entering Vacuum Heater H-400 and Dehydration Heater H-401;

(vi)~~(v)~~ One (1) Lube Oil Distillation Unit and ancillary equipment; and

(vii)~~(vi)~~ One (1) vacuum system used to collect and transfer off-gas from P-400 to V-403 or back to P-400.

(2) One (1) Lube Oil Hydrotreater (HT) process, identified as P-500, used to improve the quality of lube oil as a finished product, consisting of:

(i) A series of reactors, to remove nitrogen, oxygen, sulfur, chlorine, and other contaminants;

(ii) One (1) ~~natural gas~~ process heater, **constructed in 2011, approved for modification in 2012,** ~~capable of processing~~ **combusting natural gas and HT** off-gas **during normal operation, and VLO off-gas** during start-up or shut-down of ~~H-400~~ **H-401/H-402**, identified as H-500, with a nominal rating of ~~8.30~~ **14.00** MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-500;

(iii) One (1) ~~natural gas~~ process heater, **constructed in 2011, approved for modification in 2012, combusting natural gas**

and HT off-gas during normal operation, and VLO off-gas during start-up and shutdown of H-401/H-402, identified as H-501, with a nominal rating of ~~8.70~~**10.00** MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-501;

(iv) One (1) caustic scrubber, identified as T-501, used to remove H_2S from of the hydrogen rich recycle gas used in the reactors.

(v) One (1) natural gas process heater, identified as H-502, **constructed in 2011,** with a nominal rating of ~~7.20~~ **6.00** MMBtu/hr, used to preheat the P-500 reactor feed to the steam stripper column, and exhausting through stack H-502;

(vi) One (1) steam stripper column, identified as T-500, and associated ancillary equipment, used to remove light fuels or off**-**gas;

(vii) ~~One (1)~~**Two (2)** air dryer**s**, identified as T-502 **and T-503**, used to cool and dry the steam stripper bottoms product, exhausting through stack**s** T-502 **and T-503, respectively**;

(viii) One (1) high pressure separator, identified as V-501;

(ix) One (1) low pressure caustic flash drum, identified as V-50~~3~~**2**;

(x) One (1) off**-**gas knock out, identified as V-505; ~~and~~

(xi) One (1) caustic cooler heat exchanger, identified as E-503~~.~~**; and**

(xii) One (1) caustic scrubber, identified as V-510, used to remove H2S from the HT off-gas stream prior to combustion in Heaters H-500 and H-501.

(b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in ~~1996~~ **2007**, with a maximum capacity of 6,000 gallons per hour, processing mineral spirits to produce clean solvents, residue, and light fuel, utilizing no control devices, and exhausting to the ambient air, and consisting of:

(1) One (1) natural gas-fired boiler, identified as SB-200, ~~constructed in 2007,~~ with a maximum capacity of 14.645 MMBtu/hr, and exhausting through stack SB-200.

Under 40 CFR 60, Subpart Dc, SB-200 is considered an affected facility.

(2) One (1) Distillation Column and associated ancillary equipment, ~~constructed in 2007,~~ identified as MS142.

(3) One (1) Vacuum system used to collect and transfer off-gas from MS142 to T-102~~, constructed in 2007~~.

(4) One (1) Caustic Scrubber, identified as T-102, used to remove odor from MS142 off-gasses~~, constructed in 2007~~.

...

(g) Miscellaneous storage tanks including:

Tank ID	Tank Contents	Nominal Capacity (gal)
Tank 1	Used Oil	20,000
...	...	...
Tank 7	~~HT fuel~~ **Non-Haz Waste 142**	71,000
...	...	...
~~Tank 20~~	~~Asphalt~~	~~75,000~~
...	...	...
Tank 37	~~Used Oil~~ **Asphalt**	1,000,000
Tank 38	~~Used Oil~~ **VLO**	1,000,000
...	...	...
Tank 42	**HT Water**	**30,000**
Tank 43	**HT Fuel**	**30,000**
Tank 44	**HT Fuel**	**30,000**
Tank 45	**Spent Caustic**	**30,000**
Tank 46	**Used Oil**	**30,000**
Tank 47	**Used Oil**	**30,000**
Tank 48	**Light Fuel**	**30,000**
Tank 49	**Light Fuel**	**30,000**
Tank 50	**Non-Haz Waste 142**	**22,500**

Tanks 7, 37, and 38 are approved for modification in 2012.

Tanks 42 through 50 are approved for construction in 2012.

...

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

...

(m) Activities associated with emergencies, including:

(1) Two (2) stationary fire pump engines, identified as ~~Fire Water Pump Engine 1~~ **FW-1** and ~~Fire Water Pump Engine 2~~ **FW-2**, each with a maximum capacity of 300 Hp, combusting No. 2 fuel oil.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the stationary fire pump engines are considered affected facilities.

...

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) lube oil process, ~~approved for construction in 2010,~~ with a maximum capacity of ~~50~~ **75** million gallons per year, and consisting of:

(1) One (1) Lube Oil Distillation Process, identified as P-400, used to remove water, light fuels, and heavy hydrocarbons from the used oil feed stream; producing two overhead streams, which include a water/light fuel stream and an off-gas stream, and byproducts vacuum lube oil and asphalt, consisting of:

(i) One (1) natural gas-fired boiler, identified as SB-201, ~~approved for construction in 2009~~ **constructed in 2012**, with a maximum capacity of 16.~~33~~**74** MMBtu/hr, and exhausting through stack SB-201;

Under 40 CFR 60, Subpart Dc, SB-201 is considered an affected facility.

(ii) One (1) vacuum heater, **constructed in 2010, approved for modification in 2012,** fueled by ~~a combination of~~ natural gas **during normal operation,** and process stream off-gases **during start-up or shut-down of H-401/H-402, H-500, or H-501 or during HT start of run conditions**, identified as H-400, with a maximum capacity of ~~17.90~~ **25.00** MMBtu/hr, and exhausting through stack H-400;

(iii) One (1) dehydration heater, approved for construction in 2012, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, sour water, and HT off-gas during HT start of run reactor conditions and HT startup and shutdown, identified as H-402, with a maximum capacity of 60 MMBtu/hr, and exhausting through stack H-402;

(iv)~~(iii)~~ One (1) **back-up** dehydration heater, **constructed in 2010,** fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, ~~and~~ sour water **and HT off-gas during HT start of run reactor conditions and HT startup and shutdown**, identified as H-401, with a maximum capacity of ~~33~~**36**.0 MMBtu/hr, and exhausting through stack H-401. **H-401 will be used only during instances of H-402 downtime.**

(v)~~(iv)~~ One (1) caustic scrubber, identified as V-403, used to remove H_2S from P-400 and MS142 off-gasses, prior to entering Vacuum Heater H-400 and Dehydration Heater H-401;

(vi)~~(v)~~ One (1) Lube Oil Distillation Unit and ancillary equipment; and

(vii)~~(vi)~~ One (1) vacuum system used to collect and transfer off-gas from P-400 to V-403 or back to P-400.

(2) One (1) Lube Oil Hydrotreater (HT) process, identified as P-500, used to improve the quality of lube oil as a finished product, consisting of:

(i) A series of reactors, to remove nitrogen, oxygen, sulfur, chlorine, and other contaminants;

(ii) One (1) ~~natural gas~~ process heater, **constructed in 2011, approved for modification in 2012,** ~~capable of processing~~ **combusting natural gas and HT** off-gas **during normal operation, and VLO off-gas** during start-up or shut-down of ~~H-400~~**H-401/H-402**, identified as H-500, with a nominal rating of ~~8.30~~ **14.00** MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-500;

(iii) One (1) ~~natural gas~~ process heater, **constructed in 2011, approved for modification in 2012, combusting natural gas and HT off-gas during normal operation, and VLO off-gas during start-up and shutdown of H-401/H-402,** identified as H-501, with a nominal rating of ~~8.70~~**10.00** MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-501;

(iv) One (1) caustic scrubber, identified as T-501, used to remove H_2S from of the hydrogen rich recycle gas used in the reactors.

(v) One (1) natural gas process heater, identified as H-502, **constructed in 2011,** with a nominal rating of ~~7.20~~ **6.00** MMBtu/hr, used to preheat the P-500 reactor feed to the steam stripper column, and exhausting through stack H-502;

(vi) One (1) steam stripper column, identified as T-500, and associated ancillary equipment, used to remove light fuels or off**-**gas;

(vii) ~~One (1)~~**Two (2)** air dryer**s**, identified as T-502 **and T-503**, used to cool and dry the steam stripper bottoms product, exhausting through stack**s** T-502 **and T-503, respectively**;

(viii) One (1) high pressure separator, identified as V-501;

(ix) One (1) low pressure caustic flash drum, identified as V-50~~3~~**2**;

(x) One (1) off**-**gas knock out, identified as V-505; ~~and~~

(xi) One (1) caustic cooler heat exchanger, identified as E-503~~.~~**; and**

(xii) One (1) caustic scrubber, identified as V-510, used to remove H2S from the HT off-gas stream prior to combustion in Heaters H-500 and H-501.

(b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in ~~1996~~ **2007**, with a maximum capacity of 6,000 gallons per hour, processing mineral spirits to produce clean solvents, residue, and light fuel, utilizing no control devices, and exhausting to the ambient air, and consisting of:

(1) One (1) natural gas-fired boiler, identified as SB-200, ~~constructed in 2007,~~ with a maximum capacity of 14.645 MMBtu/hr, and exhausting through stack SB-200.

Under 40 CFR 60, Subpart Dc, SB-200 is considered an affected facility.

(2) One (1) Distillation Column and associated ancillary equipment, ~~constructed in 2007,~~ identified as MS142.

(3) One (1) Vacuum system used to collect and transfer off**-**gas from MS142 to T-102~~, constructed in 200~~7.

(4) One (1) Caustic Scrubber, identified as T-102, used to remove odor from MS142 off**-**gasses~~, constructed in 2007~~.

...

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

...

D.1.1 Particulate Matter (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate emissions from boilers SB-200 and SB-201**, vacuum heater H-400, process heaters H-500, H-501, and H-502, and dehydration heaters H-401 and H-402,** shall not exceed ~~0.45~~ **the** pounds per MMBtu heat input~~.~~ **emission limits, as listed in the table below:**

Year Constructed	Emission Unit	Maximum Capacity of Boilers Constructed (MMBtu/hr)	Total Source Operating Capacity at the time of construction (MMBtu/hr) (Q)	PM Emission Limitation for each boiler (lbs/MMBtu) (Pt)
2007	**SB-200**	**14.645**	**14.645**	**0.54**
2010	**H400 H-401**	**17.90 33.00**	**65.545**	**0.37**
2011	**H-500 H-501 H-502**	**8.30 8.70 6.00**	**88.545**	**0.34**
2012*	**SB-201 H-400 H-402 H-401 H-500 H-501**	**16.74 25.00 (17.90) 60.00 36.00 (33.00) 14.00 (8.30) 10.00(8.70)**	**182.385**	**0.28**

Note:
***H-400, H-401, H-500, and H-501 were modified in 2012 to increase the capacities of each heater. Therefore, the Total Source Operating Capacity at the time of construction (Q) accounts for the increase in MMBtu/hr for each unit.**

The increase in the Q value for H-400 is 2.10 (25.00 - 17.90 = 7.10)

The increase in the Q value for H-401 is 3.00 (36.00 - 33.00 = 3.00)

The increase in the Q value for H-500 is 3.70 (14.00 - 8.30 = 5.70)

The increase in the Q value for H-501 is 1.30 (10.00 - 8.70 = 1.30)

Parenthesis "( )" denote what the previous Q value for the unit was.

~~This~~ **These** limitation**s** ~~is~~ **are** based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \cancel{= \frac{1.09}{(30.)^{0.26}} = 0.45 \text{ lb/MMBtu}}$$

Where:
...

D.1.2 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]
~~Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:~~

~~(a) The hours of operation for Heater H-400 shall not exceed 8,400 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~(b) The hours of operation for Heater H-401 shall not exceed 8,400 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~(c) The hours of operation for Heater H-500 shall not exceed 8,400 hours per twelve (12) consecutive month period, when combusting off-gas, with compliance determined at the end of each month.~~

~~(d) The SO2 emissions from Heater H-400 shall not exceed 7.00 pounds per hour.~~

~~(e) The SO2 emissions from Heater H-401 shall not exceed 11.97 pounds per hour.~~

~~(f) The SO2 emissions from Heater H-500 shall not exceed 7.00 pounds per hour, when combusting off-gas.~~

~~(g) The SO2 emissions from Heater H-500 shall not exceed 0.6 lbs/MMCF, when combusting natural gas.~~

~~(h) The NOx emissions from Heater H-400 shall not exceed 5.24 pounds per hour.~~

~~(i) The NOx emissions from Heater H-401 shall not exceed 12.62 pounds per hour.~~

~~(j) The NOx emissions from Heater H-500 shall not exceed 5.24 pounds per hour.~~

~~(k) Heater H-500 shall combust off-gas, only during periods of H-400 start-up and shut-down.~~

~~Note: The pound per hour SO2 limitations for Heaters H-400 and H-401 are independent of which type of fuel is being combusted in the heaters. Therefore, only one SO2 limit is being included for these units.~~

~~Compliance with these limits, combined with the potential to emit SO2 and NOx from all other emission units at this source, shall limit the source-wide total potential to emit of SO2 and NOx to less than 100 tons per 12 consecutive month period each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.~~

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP) and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable, the source shall comply with the following:

(a) Source-wide SO2 emissions shall not exceed 99.67 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Source-wide NOx emissions shall not exceed 98.23 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) Source-wide CO emissions shall not exceed 98.74 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Source-wide CO2e emissions shall not exceed 99,900 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) Pound per hour emissions shall not exceed the thresholds identified in the table below:

Emission Unit ID	SO2 Limit (lbs/hr)	NOx Limit (lbs/hr)	CO Limit (lbs/hr)
HT Heater 1 (H-500)	1.00	2.50	1.87
HT Heater 2 (H-501)	0.50	1.25	1.00
Vacuum Heater H-400 (Off-Gas)	11.5	0.75	1.65
Dehydration Heater H-402	22.00	17.00	17.00
Back-up Dehydration Heater H-401	13.00	10.00	10.00

Compliance with these SO2, NOx, and CO limits, combined with the potential to emit SO2, NOx, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of SO2, NOx, and CO to less than 100 tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with the CO2e limit, combined with the potential to emit CO2e from all other emission units at this source, shall limit the source-wide total potential to emit of CO2e to less than 100,000 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1][326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

(a) The sulfur dioxide (SO_2) emissions from Heaters H-400**,** ~~and~~ H-401**, and H-402** shall not exceed 0.5 pounds per million Btu heat input, each, when using distillate oil.

(b) The sulfur dioxide (SO_2) emissions from Heaters H-400**,** ~~and~~ H-401**, and H-402** shall not exceed 1.60 pounds per million Btu heat input, each, when using residual oil.

...

D.1.5 Scrubber Operation

(a) In order to ~~demonstrate compliance~~ **comply** with **the SO_2 emission limits in** Condition**s** D.1.2~~(c)~~ **and D.1.3**, the scrubber identified as V-403 shall be operated at all times when the lube oil hydrotreater (HT) process (P-500), **and/or the** lube oil distillation process (P-400), and**/ or the** combined clean mineral spirits operation (P-100) are in operation and off-gas is being combusted in heaters H-400**, and/or H-401,** and/or H-40~~1~~**2**.

(b) In order to ~~demonstrate compliance~~ **comply** with **the SO_2 emission limits in** Condition**s** D.1.2~~(d)~~ **and D.1.3**, the scrubber**s** identified as T-501 **and V-510** shall be operated at all times when the lube oil hydrotreater (HT) process (P-500) is in operation and off-gas is being combusted in heater**s** H-500 **and/or H-501**.

...

D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

~~(a) In order to demonstrate compliance with Condition D.1.2(d), the Permittee shall perform SO2 testing for the vacuum heater H-400 stack exhaust when combusting the "worst-case" combination of off-gases, no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

~~Note: The "worst case" combination of off-gasses is the combination of off-gases produced by the processes, which have the highest potential for SO2 emissions.~~

~~(b) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO2 testing for the dehydration heater H-401 stack exhaust when combusting the "worst-case" combination of off-gases, no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

~~Note: The "worst case" combination of off-gasses is the combination of off-gases produced by the processes, which have the highest potential for SO2 emissions.~~

~~(c) In order to demonstrate compliance with Condition D.1.2(h), the Permittee shall perform NOx testing for the vacuum heater H-400 stack exhaust when combusting the "worst-case" combination of off-gases, no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

~~Note: The "worst case" combination of off-gasses is the combination of off-gases produced by the processes, which have the highest potential for NOx emissions.~~

~~(d) In order to demonstrate compliance with Condition D.1.2(i), the Permittee shall perform NOx testing for the dehydration heater H-401 stack exhaust when combusting the "worst-case" combination of off-gases, no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

~~Note: The "worst case" combination of off-gasses is the combination of off-gases produced by the processes, which have the highest potential for NOx emissions.~~

(a) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for the vacuum heater H-400, while combusting off-gas, not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

Note: A new test is required for H-400 after the startup of the modification because the unit is being modified and the limits have been revised.

(b) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for the dehydration heater H-402, while combusting off-gas, not later than 180 days after initial startup, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

Note: This is a new testing requirement because H-402 is a new unit.

(c) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform CO testing for back-up dehydration heater H-401, while combusting off-gas, not later than 180 days after issuance of this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

Note: Since H-401 is an existing unit and has not been tested for compliance for CO limit, the test is required after the issuance of this revision.

(d) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall

perform SO_2 and NO_X testing for back-up dehydration heater H-401, while combusting off-gas, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

Note: Since H-401 is an existing unit and has already been tested for SO2 and NOx on date February 7, 2012, the tests will be required to be repeated once every 5 years.

(e) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for H-500, while combusting off-gas, not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

Note: A new test is required for H-500 after startup of the modification because the unit will be combusting a new fuel and the limits have been revised.

(f) In order to demonstrate compliance with Condition D.1.2(e), the Permittee shall perform SO_2, NO_X, and CO testing for H-501, while combusting off-gas, not later than 180 days after startup of the modification permitted under this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

Note: A new test is required for H-501 after startup of the modification because the unit will be combusting a new fuel and the limits have been revised.

(g) In order to verify the emission factor for the natural gas-fired boiler SB-200, the Permittee shall perform one-time CO testing, not later than 180 days after issuance of this permit revision, Permit No. 097-31757-00670, utilizing methods as approved by the Commissioner.

Note: This one-time testing is required to verify the CO emission factor used.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
...

D.1.7 Sulfur Dioxide (SO_2), Nitrogen Oxides (NOx), Carbon Monoxide (CO), and Carbon Dioxide Equivalent (CO2e)

In order to comply with Condition D.1.2(a), D.1.2(b), D.1.2(c), and D.1.2(d), the Permittee shall determine source-wide SO_2, NOx, CO, and CO2e emissions according to the following formula:

Emissions (tons/yr) = Σ_i (Operating Hours (hrs/yr)$_i$ x Emission Rates (lb/hr)$_i$) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

Emission Unit ID	Emission Rates			
	SO2 (lbs/hr)	NOx (lbs/hr)	CO (lbs/hr)	CO2e (lbs/hr)
Boiler SB-200	**0.01**	**1.27**	**0.23**	**1,768**
Boiler SB-201	**0.01**	**0.59**	**1.41**	**2,021**
HT Heater 1 (H-500)	**1.00**	**2.50**	**1.87**	**1,797**
HT Heater 2 (H-501)	**0.50**	**1.25**	**1.00**	**1,430**
HT Heater 3 (H-502)	**0.004**	**0.15**	**0.50**	**858**
Vacuum Heater H-400 (Natural Gas)	**0.25**	**0.75**	**1.65**	**3,574**
Vacuum Heater H-400 (Off-Gas)	**11.5**	**0.75**	**1.65**	**4,808**
Dehydration Heater H-402	**22.00**	**17.00**	**17.00**	**10,958**
Back-up Dehydration Heater H-401	**13.00**	**10.00**	**10.00**	**7,306**
Fire Water Engine Pump 1 (FW-1)	**0.62**	**1.98**	**1.71**	**346**
Fire Water Engine Pump 2 (FW-2)	**0.62**	**1.98**	**1.71**	**346**

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

D.1.~~7~~**8** Sulfur Dioxide (SO_2) Emissions and Sulfur Content

(a) In order to demonstrate compliance with the ~~hourly~~ SO2 emission limit~~sation~~ in Conditions ~~D.1.2(d), D.1.2(e), and D.1.2(f)~~ **D.1.2(a) and D.1.2(e)**, the Permittee shall:

(1) Measure and record the sulfur content of the Used Oil Stream, VLO Feed Stream to HT, HT Rundown Stream, and HT Distillate Stream, once per day, using an instrument that will comply with Section C Instrument Specifications, of this permit.

(2) Measure and record the Total Reduced Sulfur (TRS) concentration from the P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil, twice per calendar week using the sampling protocol and analysis methods most recently approved by IDEM.

...

(b) Compliance may also be determined by conducting stack tests for sulfur dioxide emissions from ~~the~~ **process heater H-500 and/or process heater H-501 and/or** vacuum heater H-400 and/or **dehydration heater H-402 and/or back-up** dehydration heater H-401, when combusting process off-gases, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

...

D.1.~~8~~**9** Visible Emissions Notations

(a) Daily visible emission notations of the vacuum heater H-400, **dehydration heater H-402, back-up** dehydration heater H-401, ~~and~~ process heater H-500, **and process heater H-501** stack exhausts, shall be performed during normal daylight operations when the units combust off-gas and are exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

...

D.1.~~9~~**10** Wet Scrubber Parametric Monitoring

(a) The Permittee shall monitor and record the ~~pressure drop,~~ flow rate~~,~~ and pH of the scrubber, V-403 at least once per day when the processes (P-100 and P-400) are in operation:

~~(1) When for any one reading, the pressure drop across the scrubber is outside the normal range of 0.5 to 1.5 psi (13.85 to 41.55 inches of water), or a range established by the latest stack test; the Permittee shall take reasonable response~~

~~steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit.~~

(1)~~(2)~~ When for any one reading, the ~~water~~ **caustic** flow rate of the scrubber is less than the normal minimum of 50 gallons per minute, or a minimum established during the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A flow rate that is below the above mentioned minimum is not a deviation from this permit.

(2)~~(3)~~ When for any one reading, the pH of the scrubber is **below a minimum of 9.5** ~~outside the normal range of 10.5 to 12.5~~, or **outside of** a range as established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pH that is outside the above mentioned range is not a deviation from this permit.

(b) The Permittee shall monitor and record the ~~pressure drop,~~ flow rate~~,~~ and pH of the scrubber, T-501 at least once per day when the lube oil hydrotreater process (P-500) is in operation:

~~(1) When for any one reading, the pressure drop across the scrubber is outside the normal range of 5 to 10 psi (138.5 to 277 inches of water), or a range established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit.~~

(1)~~(2)~~ When for any one reading, the ~~water~~**caustic** flow rate of the scrubber is less than the normal minimum of ~~200~~ **150** gallons per minute, or a minimum established during the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A flow rate that is below the above mentioned minimum is not a deviation from this permit.

(2)~~(3)~~ When for any one reading, the pH of the scrubber is **below a minimum of 9.5** ~~outside the normal range of 9.5 to 12.5~~, or **outside of** a range as established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pH that is outside the above mentioned range is not a deviation from this permit.

(c) The Permittee shall monitor and record the flow rate and pH of the scrubber, V-510 at least once per day when the lube oil hydrotreater process (P-500) is in operation and HT off-gas is being combusted in Heater H-500 and/or Heater H-501:

(1) When for any one reading, the caustic flow rate of the scrubber is less than the normal minimum of 50 gallons per minute, or a minimum established during the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps

required by this condition. A flow rate that is below the above mentioned minimum is not a deviation from this permit.

(2) When for any one reading, the pH of the scrubber is below a minimum of 9.5, or outside of a range as established by the latest stack test; the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pH that is outside the above mentioned range is not a deviation from this permit.

Failure to take response steps shall be considered a deviation from this permit.

The instruments used for determining the ~~pressure drop,~~ flow rate~~,~~ and pH shall comply with Section C Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

...

D.1.~~10~~**11**Process Feed Stream Monitoring

(a) The Permittee shall monitor and record the sulfur content of the Used Oil Stream, VLO Feed Stream to HT, HT Rundown Stream, and HT Distillate Stream, once per day when the processes are in operation. When for any one reading, the sulfur content exceeds the maximum concentration allowable to maintain compliance with **the SO2 emission limits in** Conditions D.1.2~~(d)~~**(a)**~~,~~ **and** D.1.2(e)~~, and D.1.2(f)~~, the Permittee shall take reasonable response steps. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A sulfur content concentration that is outside the above mentioned range is not a deviation from this permit.

....

D.1.~~11~~**12**Record Keeping Requirements

(a) To document **the** compliance **status** with Condition**s** D.1.2(a), **D.1.2(b), D.1.2(c), D.1.2(d), and D.1.7** the Permittee shall maintain records of the **total** ~~number of~~ hours **of operation for** ~~that the Heater~~ **boiler SB-200, boiler SB-201, process heater H-500, process heater H-501, process heater H-502, vacuum heater** H-400**, dehydration heater H-402, back-up dehydration heater H-401, fire water engine pump 1, and fire water engine pump 2** ~~operates each month~~, **as well as the calculated SO2, NOx, CO, and CO2e emissions from each of these units according to the equation contained in Condition D.1.7, each month and for each compliance period**.

~~(b) To document compliance with Condition D.1.2(b), the Permittee shall maintain records of the number of hours that the Heater H-401 operates each month.~~

~~(c) To document compliance with Condition D.1.2(c), the Permittee shall maintain records of the number of hours that the Heater H-500 operates each month, when combusting off-gas.~~

~~(d)~~**(b)** To document **the** compliance **status** with **the SO2 emission limits in** Conditions ~~D.1.2(d), D.1.2(e), D.1.2(f),~~ **D.1.2(a), D.1.2(e),** and D.1.3, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through **(4)**~~(5)~~ shall be complete and sufficient to establish compliance with the SO2 limits as required in Conditions ~~D.1.2(d), D.1.2(e), and D.1.2(f)~~ **D.1.2(a), D.1.2(e), and D.1.3**.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel usages (P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil) since last compliance determination period;

(3) Sulfur concentrations of each fuel combusted; and

(4) Sulfur dioxide emission rates in pounds per hour for each fuel combusted.

~~(e)~~**(c)** To document **the** compliance **status** with Condition D.1.~~7~~**8**(a)(1), the Permittee shall maintain records the once per day sulfur content analysis performed on the Used Oil Stream, VLO Feed Stream to HT, HT Rundown Stream, and HT Distillate Stream. The Permittee shall include in it~~'~~s daily record when the sulfur content analysis is not performed and the reason for the lack of the sulfur content analysis (e.g., the processes did not operate that date).

~~(f)~~**(d)** To document **the** compliance **status** with Condition D.1.~~7~~**8**(a)(2), the Permittee shall maintain records of the twice per week Total Reduced Sulfur (TRS) sampling and analysis performed on the P-400 Off-gas, P-500 Off-gas, and P-400 Vaporized Distillate Oil. The Permittee shall include in it~~'~~s twice per week record when TRS sampling and analysis is not performed and the reason for the lack of TRS sampling and analysis (e.g., the process did not operate that date).

~~(g)~~**(e)** To document **the** compliance **status** with Condition D.1.~~8~~**9**, the Permittee shall maintain records of daily visible emission notations of the H-400, **H-402,** H-401, ~~and~~ H-500 **and H-501** stack exhausts when combusting process off-gas. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that date).

(g) To document the compliance status with Condition D.1.10(a)(1), the Permittee shall maintain records of the daily caustic flow rate readings of scrubber V-403. The Permittee shall include in its daily record when a caustic flow rate reading is not taken and the reason for the lack of daily flow rate reading (e.g., the process did not operate that date).

(h) To document the compliance status with Condition D.1.10(a)(2), the Permittee shall maintain records of the daily pH readings of scrubber V-403. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of pH reading (e.g., the process did not operate that date).

(i) To document the compliance status with Condition D.1.10(b)(1), the Permittee shall maintain records of the daily caustic flow rate readings of scrubber T-501. The Permittee shall include in its daily record when a caustic flow rate reading is not taken and the reason for the lack of daily flow rate reading (e.g., the process did not operate that date).

(j) To document the compliance status with Condition D.1.10(b)(2), the Permittee shall maintain records of the daily pH readings of scrubber T-501. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of pH reading (e.g., the process did not operate that date).

(k) To document the compliance status with Condition D.1.10(c)(1), the Permittee shall maintain records of the daily caustic flow rate readings of scrubber V-510. The Permittee shall include in its daily record when a caustic flow rate reading is not taken and the reason for the lack of daily flow rate reading (e.g., the process did not operate that date).

(l) **To document the compliance status with Condition D.1.10(c)(2), the Permittee shall maintain records of the daily pH readings of scrubber V-510. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of pH reading (e.g., the process did not operate that date).**

~~(h)~~**(m)** Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

...

D.1.~~12~~**13**Reporting Requirements

~~(a) To document compliance status with Condition D.1.2(a), the monthly hours of operation of the Heater H-400 shall be submitted quarterly not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~(b) To document compliance status with Condition D.1.2(b), the monthly hours of operation of the Heater H-401 shall be submitted quarterly not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~(c) To document compliance status with Condition D.1.2(c), the monthly hours of operation of the Heater H-500, when combusting off-gas, shall be submitted quarterly not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

Quarterly summaries of the information to document the compliance status with Condition D.1.2(a), D.1.2(b), D.1.2(c), D.1.2(d), and D.1.7 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

...

SECTION E.1 FACILITY OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) lube oil process, ~~approved for construction in 2010,~~ with a maximum capacity of ~~50~~ **75** million gallons per year, and consisting of:

(1) One (1) Lube Oil Distillation Process, identified as P-400, used to remove water, light fuels, and heavy hydrocarbons from the used oil feed stream; producing two overhead streams, which include a water/light fuel stream and an off-gas stream, and byproducts vacuum lube oil and asphalt, consisting of:

(i) One (1) natural gas-fired boiler, identified as SB-201, ~~approved for construction in 2009~~ **constructed in 2012**, with a maximum capacity of 16.~~33~~**74** MMBtu/hr,

and exhausting through stack SB-201;

Under 40 CFR 60, Subpart Dc, SB-201 is considered an affected facility.

(b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in ~~1996~~ **2007**, with a maximum capacity of 6,000 gallons per hour, processing mineral spirits to produce clean solvents, residue, and light fuel, utilizing no control devices, and exhausting to the ambient air, and consisting of:

(1) One (1) natural gas-fired boiler, identified as SB-200, ~~constructed in 2007,~~ with a maximum capacity of 14.645 MMBtu/hr, and exhausting through stack SB-200.

Under 40 CFR 60, Subpart Dc, SB-200 is considered an affected facility.

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

...

SECTION E.2 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Compression Ignition (CI) Internal Combustion Engine (ICE)

(m) Activities associated with emergencies, including:

(1) Two (2) stationary fire pump engines, identified as ~~Fire Water Pump Engine 1~~ **FW-1** and ~~Fire Water Pump Engine 2~~ **FW-2**, each with a maximum capacity of 300 Hp, combusting No. 2 fuel oil.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the stationary fire pump engines are considered affected facilities.

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

...

SECTION E.3 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Reciprocating Internal Combustion Engine (RICE)

(m) Activities associated with emergencies, including:

(1) Two (2) stationary fire pump engines, identified as ~~Fire Water Pump Engine 1~~ **FW-1** and ~~Fire Water Pump Engine 2~~ **FW-2**, each with a maximum capacity of 300 Hp, combusting No. 2 fuel oil.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, the stationary fire pump engines are considered affected facilities.

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

...

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name:~~ ~~Heritage-Crystal Clean, LLC~~
~~Source Address:~~ ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~
~~FESOP Permit No.:~~ ~~F097-28484-00670~~
~~Facility:~~ ~~H-400~~
~~Parameter:~~ ~~Hours of Operation~~
~~Limit:~~ ~~The hours of operation for the Heater H-400 shall not exceed 8,400 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~~
	~~Hours of Operation This Month~~	~~Hours of Operation Previous 11 Months~~	~~Hours of Operation 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:~~ _____

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name:~~ ~~Heritage-Crystal Clean, LLC~~
~~Source Address:~~ ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~
~~FESOP Permit No.:~~ ~~F097-28484-00670~~
~~Facility:~~ ~~H-401~~
~~Parameter:~~ ~~Hours of Operation~~
~~Limit:~~ ~~The hours of operation for the Back-up Dehydration Heater H-401 shall not exceed 8,400 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~~
	~~Hours of Operation This Month~~	~~Hours of Operation Previous 11 Months~~	~~Hours of Operation 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:~~ _____

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name:~~ ~~Heritage-Crystal Clean, LLC~~
~~Source Address:~~ ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~
~~FESOP Permit No.:~~ ~~F097-28484-00670~~
~~Facility:~~ ~~H-500~~
~~Parameter:~~ ~~Hours of Operation~~
~~Limit:~~ ~~The hours of operation for the Heater H-500 shall not exceed 8,400 hours per twelve (12) consecutive month period, when combusting off-gas, with compliance determined at the end of each month.~~

~~YEAR:~~ _____

~~Month~~	~~Column 1~~	~~Column 2~~	~~Column 1 + Column 2~~
	~~Hours of Operation This Month~~	~~Hours of Operation Previous 11 Months~~	~~Hours of Operation 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:~~ _____

…

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: **Heritage-Crystal Clean, LLC**
Source Address: **3970 W. 10th Street, Indianapolis, Indiana 46222**
FESOP Permit No.: **F097-28484-00670**
Facility: **SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2**
Parameter: **SO_2 Emissions**
Limit: **Source-wide SO_2 emissions shall not exceed 99.67 tons per twelve (12) consecutive month period.**

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	SO2 (lbs/hr)
Boiler SB-200	0.01
Boiler SB-201	0.01
HT Heater 1 (H-500)	1.00
HT Heater 2 (H-501)	0.50
HT Heater 3 (H-502)	0.004
Vacuum Heater H-400 (Natural Gas)	0.25
Vacuum Heater H-400 (Off-Gas)	11.5
Dehydration Heater H-402	22.00
Back-up Dehydration Heater H-401	13.00
Fire Water Engine Pump 1 (FW-1)	0.62
Fire Water Engine Pump 2 (FW-2)	0.62

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide SO2 Emissions This Month	Source-wide SO2 Emissions Previous 11 Months	Source-wide SO2 Emissions 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: _____

…

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: **Heritage-Crystal Clean, LLC**
Source Address: **3970 W. 10th Street, Indianapolis, Indiana 46222**
FESOP Permit No.: **F097-28484-00670**
Facility: **SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2**
Parameter: **NOx Emissions**
Limit: **Source-wide NOx emissions shall not exceed 98.23 tons per twelve (12) consecutive month period.**

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	NOx (lbs/hr)
Boiler SB-200	1.27
Boiler SB-201	0.59
HT Heater 1 (H-500)	2.50
HT Heater 2 (H-501)	1.25
HT Heater 3 (H-502)	0.15
Vacuum Heater H-400 (Natural Gas)	0.75
Vacuum Heater H-400 (Off-Gas)	0.75
Dehydration Heater H-402	17.00
Back-up Dehydration Heater H-401	10.00
Fire Water Engine Pump 1 (FW-1)	1.98
Fire Water Engine Pump 2 (FW-2)	1.98

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide NOx Emissions This Month	Source-wide NOx Emissions Previous 11 Months	Source-wide NOx Emissions 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: _____

…

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: **Heritage-Crystal Clean, LLC**
Source Address: **3970 W. 10th Street, Indianapolis, Indiana 46222**
FESOP Permit No.: **F097-28484-00670**
Facility: **SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2**
Parameter: **CO Emissions**
Limit: **Source-wide CO emissions shall not exceed 98.74 tons per twelve (12) consecutive month period.**

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	**CO (lbs/hr)**
Boiler SB-200	0.23
Boiler SB-201	1.41
HT Heater 1 (H-500)	1.87
HT Heater 2 (H-501)	1.00
HT Heater 3 (H-502)	0.50
Vacuum Heater H-400 (Natural Gas)	1.65
Vacuum Heater H-400 (Off-Gas)	1.65
Dehydration Heater H-402	17.00
Back-up Dehydration Heater H-401	10.00
Fire Water Engine Pump 1 (FW-1)	1.71
Fire Water Engine Pump 2 (FW-2)	1.71

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide CO Emissions This Month	**Source-wide CO Emissions Previous 11 Months**	**Source-wide CO Emissions 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: _____

…

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Heritage-Crystal Clean, LLC
Source Address: 3970 W. 10th Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-28484-00670
Facility: SB-200, SB-201, H-500, H-501, H-502, H-400, H-402, H-401, FW-1, FW-2
Parameter: CO2e Emissions
Limit: Source-wide CO2e emissions shall not exceed 99,900 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Emissions (tons/yr) = Σi (Operating Hours (hrs/yr)i x Emission Rates (lb/hr)i) x (1 ton/2,000 lbs)

Where i = Each emission unit listed in the table below:
yr = Previous 12 consecutive month period

	Emission Rate
Emission Unit ID	CO2e (lbs/hr)
Boiler SB-200	1,768
Boiler SB-201	2,021
HT Heater 1 (H-500)	1,797
HT Heater 2 (H-501)	1,430
HT Heater 3 (H-502)	858
Vacuum Heater H-400 (Natural Gas)	3,574
Vacuum Heater H-400 (Off-Gas)	4,808
Dehydration Heater H-402	10,958
Back-up Dehydration Heater H-401	7,306
Fire Water Engine Pump 1 (FW-1)	346
Fire Water Engine Pump 2 (FW-2)	346

The Permittee shall use the emission rates listed in the table above or those determined from the most recent valid compliance demonstration.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Source-wide CO2e Emissions This Month	Source-wide CO2e Emissions Previous 11 Months	Source-wide CO2e Emissions 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: _____

(b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

(1) IDEM has clarified the standard industrial classification (SIC) code references as follows:

...

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary used oil and used solvent recycling and distibution facility.

Source Address:	3970 W. 10th Street, Indianapolis, IN 46222
General Source Phone Number:	(317) 486-0620
SIC Code:	~~4212 / 5084~~ **2992 (Lubricating Oils and Greases)**

...

(2) On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule sites listed in the permit. These changes are not changes to the underlining provisions. The change is only to site of these rules in Section B - Operational Flexibility. IDEM, OAQ has clarified the rule sites for the Preventive Maintenance Plan.

...

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]~~[326 IAC 2-8-5(a)(1)]~~

...

B.20 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) **and (c)** ~~through (d)~~ without a prior permit revision, if each of the following conditions is met:

...

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)**(1) and (c)** ~~through (d)~~. The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15~~(b)(2), (c)(1), and (d)~~ **(b)(1) and (c)**.

(b) Emission Trades [326 IAC 2-8-15 ~~(c)~~ **(b)**]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15 ~~(c)~~ **(b)**.

(c) Alternative Operating Scenarios [326 IAC 2-8-15 ~~(d)~~ **(c)**]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

...

(3) IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping.

...

C.15 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

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

Support information includes the following:

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

Records of required monitoring information include the following:

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

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

(4) IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report and the Emergency Provisions.

...

C.16 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. **Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph**. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

...

This report shall be submitted quarterly based on a calendar year. **Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting**. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

...

(4) IDEM, OAQ has updated Attachments A, B, and C to contain the most recent versions of New Source Performance Standards (NSPS), 40 CFR 60, Subparts Dc and IIII, and the most recent version of National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart ZZZZ.

Note: The most recent versions of 40 CFR Part 60, Subparts Dc and IIII and 40 CFR Part 63, Subpart ZZZZ, is now included in their entirety in the FESOP as Attachments A, B, and C, but these changes are not shown in their entirety as bold and strikethrough text in this TSD.

...

E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment A) which are incorporated by reference as 326 IAC 12 for the natural gas-fired boilers SB-200 and SB-201:

(1) 40 CFR 60.40c(a)**,** ~~and~~ (b)**, and (i)**
(2) 40 CFR 60.41(c)
(3) 40 CFR 60.48c(a), (g)(2), and (i)

...

E.2.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included as Attachment B) which are incorporated by reference as 326 IAC 12 for the compression ignition internal combustion engines:

(1) 40 CFR 60.4200(a)(2)(ii), (c), and (d)
(2) 40 CFR 60.4205(c)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209(a)
(7) 40 CFR 60.4211(a)**, (f)** and ~~(e)~~**(g)**
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 4
(13) Table 8

...

E.3.2 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment ~~A~~**C**) which are incorporated by reference as 326 IAC 20-82 for the reciprocating internal combustion engines:

~~(1) 40 CFR 63.6580~~
~~(2) 40 CFR 63.6585(a),(c),(d)~~
~~(3) 40 CFR 63.6590(a)(1)(iii),(iv),(b)(3)~~
~~(4) 40 CFR 63.6605~~
~~(5) 40 CFR 63.6625(e),(f)~~
~~(6) 40 CFR 63.6645(a)(5)~~
~~(7) 40 CFR 63.6670~~
~~(8) 40 CFR 63.6675~~
(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6595(a)(7)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675
...

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on April 18, 2012.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. 097-31757-00670. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Jason R. Krawczyk at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 324-5174 or toll free at 1-800-451-6027 extension 4-5174.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

SUMMARY OF EMISSIONS

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Emission Units	Fuel Type	Uncontrolled / Unlimited Emissions (Tons/Yr)										
		PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e	H_2S	Single HAP (Ethylene Glycol)	Combined HAPS
Boiler SB-200	Natural Gas	0.12	0.49	0.49	0.04	5.57	0.35	1.00	7,744	-	-	0.12
Boiler SB-201	Natural Gas	0.14	0.56	0.56	0.04	2.57	0.40	6.16	8,852	-	-	0.14
HT Heater 1 (H-500)	Natural Gas	0.07	0.30	0.30	30.66	9.77	0.22	8.19	7,870	-	-	0.07
	Off Gas	0.07	0.19	0.19			0.12			-	-	0.04
HT Heater 2 (H-501)	Natural Gas	0.06	0.23	0.23	15.33	4.88	0.17	4.10	6,262	-	-	0.06
	Off Gas	0.04	0.11	0.11			0.07			-	-	0.02
HT Heater 3 (H-502)	Natural Gas	0.05	0.20	0.20	0.02	0.66	0.14	2.21	3,757	-	-	0.05
Vacuum Heater H-400	Natural Gas	0.21	0.83	0.83	**40.30**	**2.63**	0.60	**7.23**	15,655	-	-	0.21
	Off Gas	**0.33**	**0.95**	**0.95**			**0.60**		**20,573**	-	**-**	**0.21**
Dehydration Heater H-402	Natural Gas	0.07	0.30	0.30	48.49	63.47	0.22	66.95	48,538	-	-	0.07
	Vaporized Distillate	2.82	2.82	2.82			0.28			-	-	0.85
	Off Gas	0.08	0.23	0.23			0.14			-	-	0.05
Back-up Dehydration Heater H-401	Natural Gas	0.03	0.13	0.13	32.32	42.31	0.10	44.63	32,400	-	-	0.03
	Vaporized Distillate	1.75	1.75	1.75			0.18			-	-	0.53
	Off Gas	0.05	0.15	0.15			0.10			-	-	0.03
Fire Water Pump 1	Diesel	0.02	0.02	0.02	0.15	0.50	0.19	0.43	87	-	-	2.03E-03
Fire Water Pump 2	Diesel	0.02	0.02	0.02	0.15	0.50	0.19	0.43	87	-	-	2.03E-03
Used Solvent Transfer Operations	N/A	-	-	-	-	-	5.33	-	-	-	0.88	2.40
Combined Clean Mineral Spirits	N/A	-	-	-	-	-	2.75	-	-	-	-	-
Mineral Spirits Drip Tray Evaporation	N/A	-	-	-	-	-	0.19	-	-	-	-	-
Lube Oil Transfer Operations	N/A	-	-	-	-	-	0.56	-	-	-	-	0.56
Tanks	N/A	-	-	-	-	-	1.12	-	-		-	1.12
Lube Oil Hydrotreating Operations	N/A	-	-	-	-	-	0.13	-	-	0.02	-	-
Cooling Towers	N/A	2.53	2.53	2.53	-	-	-	-	-	-	-	-
Roadways (Fugitive)	N/A	16.36	3.19	0.48	-	-	-	-	-	-	-	-
	Total	**8.27**	**11.00**	**11.00**	**167.50**	**132.84**	**13.55**	**141.32**	**136,170**	**0.02**	**0.88**	**6.37**

Emission Units	Fuel Type	Uncontrolled / Limited Emissions (Tons/Yr)										
		PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e	H_2S	Single HAP (Ethylene Glycol)	Combined HAPS
Boiler SB-200	Natural Gas	0.12	0.49	0.49	<99.67	<98.23	0.35	<98.74	<99,900	-	-	0.12
Boiler SB-201	Natural Gas	0.14	0.56	0.56			0.40			-	-	0.14
HT Heater 1 (H-500)	Natural Gas	0.07	0.30	0.30			0.22			-	-	0.07
	Off Gas	0.07	0.19	0.19			0.12			-	-	0.04
HT Heater 2 (H-501)	Natural Gas	0.06	0.23	0.23			0.17			-	-	0.06
	Off Gas	0.04	0.11	0.11			0.07			-	-	0.02
HT Heater 3 (H-502)	Natural Gas	0.05	0.20	0.20			0.14			-	-	0.05
Vacuum Heater H-400	Natural Gas	0.21	0.83	0.83			0.60			-	-	0.21
	Off Gas	**0.33**	**0.95**	**0.95**			**0.60**			-	**-**	**0.21**
Dehydration Heater H-402	Natural Gas	0.07	0.30	0.30			0.22			-	-	0.07
	Vaporized Distillate	2.82	2.82	2.82			0.28			-	-	0.85
	Off Gas	0.08	0.23	0.23			0.14			-	-	0.05
Back-up Dehydration Heater H-401	Natural Gas	0.03	0.13	0.13			0.10			-	-	0.03
	Vaporized Distillate	1.75	1.75	1.75			0.18			-	-	0.53
	Off Gas	0.05	0.15	0.15			0.10			-	-	0.03
Fire Water Pump 1	Diesel	0.02	0.02	0.02			0.19			-	-	2.03E-03
Fire Water Pump 2	Diesel	0.02	0.02	0.02			0.19			-	-	2.03E-03
Used Solvent Transfer Operations	N/A	-	-	-	-	-	5.33	-	-	-	0.88	2.40
Combined Clean Mineral Spirits	N/A	-	-	-	-	-	2.75	-	-	-	-	-
Mineral Spirits Drip Tray Evaporation	N/A	-	-	-	-	-	0.19	-	-	-	-	-
Lube Oil Transfer Operations	N/A	-	-	-	-	-	0.56	-	-	-	-	0.56
Tanks	N/A	-	-	-	-	-	1.12	-	-	-	-	1.12
Lube Oil Hydrotreating Operations	N/A	-	-	-	-	-	0.13	-	-	0.02	-	-
Cooling Towers	N/A	2.53	2.53	2.53	-	-	-	-	-	-	-	-
Roadways (Fugitive)	N/A	16.36	3.19	0.48	-	-	-	-	-	-	-	-
	Total	**8.27**	**11.00**	**11.00**	**<99.67**	**<98.23**	**13.55**	**<98.74**	**<99,900**	**0.02**	**0.88**	**6.37**

Note:

Vacuum Heater H-400 is primarily fueled by natural gas during periods of normal operation and process stream off-gasses during periods of start-up and shut-down for H-401/H-402. Therefore, the worst-case potential to emit is included in the total PTE.

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP) and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable, the source shall comply with the following:
(a) Source-wide SO2 emissions shall not exceed 99.67 tons per twelve (12) consecutive month period.
(b) Source-wide NOx emissions shall not exceed 98.23 tons per twelve (12) consecutive month period.
(c) Source-wide CO emissions shall not exceed 98.74 tons per twelve (12) consecutive month period.
(d) Source-wide CO2e emissions shall not exceed 99,900 tons per twelve (12) consecutive month period.
(e) Pound per hour emissions shall not exceed the thresholds identified in the table below:

Emission Unit ID	SO2 Limit (lb/hr)	NOx Limit (lb/hr)	CO Limit (lb/hr)
HT Heater 1 (H-500)	1.00	2.50	1.87
HT Heater 2 (H-501)	0.50	1.25	1.00
Vacuum Heater H-400 (Off-Gas)	11.5	0.75	1.65
Dehydration Heater H-402	22.00	17.00	17.00
Back-up Dehydration Heater H-401	13.00	10.00	10.00

Appendix A: Emissions Calculations
Steam Boiler 1 Natural Gas Combustion
Unlimited Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
14.65	128.3	Steam Boiler 1 (SB-200)
14.65	128.3	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	-	5.5	-
Emission Factor in lb/MMBtu	-	-	-	-	0.087	-	0.016
					**see below		**see below
Potential Emissions in tons/yr	0.12	0.49	0.49	0.04	5.57	0.35	1.00

Note:
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission factors for NOx and CO based on SB-200 stack test (un-verified) at 41% capacity and scaled up to 100% operating capacity.
CO emission factor will be verified through stack testing.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
PM, PM10, PM2.5, SO2, and VOC Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-(
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Unlimited Potential Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Limited Potential Emissions (tons/yr) = Unlimited Potential Emissions (tons/yr) *Unless Source has requested a specific lb/hr limit*

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.347E-04	7.697E-05	4.811E-03	1.155E-01	2.181E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.207E-05	7.056E-05	8.980E-05	2.438E-05	1.347E-04
				Combined HAPs:	**0.12**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	7,697	0.1	0.1
Summed Potential Emissions in tons/yr	7,698		
CO2e Total in tons/yr	7,744		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Steam Boiler 2 Natural Gas Combustion
Unlimited Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
16.74	146.6	Steam Boiler 2 (SB-201)
16.74	146.6	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	-	5.5	84
Emission Factor in lb/MMBtu	-	-	-	-	0.035 **see below	-	-
Potential Emission in tons/yr	0.14	0.56	0.56	0.04	2.57	0.40	6.16

Note:
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factor for NOx based on manufacturer data of 0.035 lb/MMBTU.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Unlimited Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Unlimited Emission (tons/yr) = Throughput (MMBtu/hr) x 8,760 hrs/yr x Emission Factor (lb/MMBtu) / 2,000 lb/ton
Limited Potential Emissions (tons/yr) = Unlimited Potential Emissions (tons/yr) *Unless Source has requested a specific lb/hr limit*

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.540E-04	8.799E-05	5.499E-03	1.320E-01	2.493E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.666E-05	8.065E-05	1.026E-04	2.786E-05	1.540E-04
				Combined HAPs:	**0.14**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	8,799	0.2	0.2
Summed Potential Emissions in tons/yr	8,799		
CO2e Total in tons/yr	8,852		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
HT Heater 1 (H-500) Natural Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
9.00	78.8	HT Heater 1 (H-500)
9.00	78.8	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	-	-	5.5	-
Potential Emissions in tons/yr	0.07	0.30	0.30	- **see below	- **see below	0.22	- **see below

Note:
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**SO2, NOx, and CO emissions are shown on Page 5 of TSD App A for HT Heater 1 (H-500) Off-gas Combustion
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of natural gas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	8.278E-05	4.730E-05	2.957E-03	7.096E-02	1.340E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.971E-05	4.336E-05	5.519E-05	1.498E-05	8.278E-05

Unlimited Combined HAPs: 0.07

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	-	-	-
Potential Emission in tons/yr	-	-	-
Summed Potential Emissions in tons/yr		-	
CO2e Total in tons/yr		-	

Note:
*GHG emissions are shown on Page 5 of TSD App A for HT Heater 1 (H-500) Off-gas Combustion

Appendix A: Emissions Calculations
HT Heater 1 (H-500) Off-Gas Combustion

Company Name: **Heritage-Crystal Clean, LLC**
Address City IN Zip: **3970 West 10th Street, Indianapolis, IN 46222**
Permit Number: **097-31757-00670**
Plt ID: **097-00670**
Reviewer: **Jason R. Krawczyk**
Date: **December 18, 2012**

Heat Input Capacity *** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
5.00	43.80	HT Heater 1 (H-500)
5.00	43.80	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	3.0	8.7	8.7	-	-	5.5	-
Emission Factor in lb/MMBtu	-	-	-	0.50	0.16	-	0.13
Potential Emissions in tons/yr	6.57E-02	0.19	0.19	30.66 **see below	9.77 **see below	1.20E-01	8.19 **see below

Note:
PM, PM10, and PM2.5 emission factors from WebFIRE for SCC #1-02-007-01 (Petroleum Refinery Gas)
VOC emission factor from AP-42 Chapter 1.4, Table 1.4-2, since it is higher than the WebFIRE emisison factor.
SO2, NOx, and CO emission factors based on stack test performed February 7, 2012 on Vacuum Heater H-400.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
**Source has requested an SO2 limit of 1.00 lbs/hr, NOx limit of 2.50 lbs/hr, and CO limit of 1.87 lbs/hr.
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of offgas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

PM, PM10, PM2.5, VOC
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

SO2, NOx, CO
Potential Emisssions (tons/yr) = Total Heat Input Capacity (14.00 MMBtu/hr) * 8,760 hrs/yr * Emission Factor (lb/MMBtu) / 2,000 lbs/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	4.599E-05	2.628E-05	1.643E-03	3.942E-02	7.446E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.095E-05	2.409E-05	3.066E-05	8.322E-06	4.599E-05
				Unlimited Combined HAPs:	**4.13E-02**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	127,560	2.44	2.34
Potential Emission in tons/yr	7,822	0.15	0.14
Summed Potential Emissions in tons/yr	7,822		
CO2e Total in tons/yr	7,870		

Methodology
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 with a 1.063 safety factor applied.
Emission Factors are higher than those from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 for natural gas combustion.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Combined Natural Gas and Off-gas Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
HT Heater 2 (H-501) Natural Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
7.00	61.3	HT Heater 2 (H-501)
7.00	61.3	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	-	-	5.5	-
Potential Emissions in tons/yr	0.06	0.23	0.23	- **see below	- **see below	0.17	- **see below

Note:
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**SO2, NOx, and CO emissions are shown on Page 7 of TSD App A for HT Heater 2 (H-501) Off-gas Combustion
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of natural gas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	6.439E-05	3.679E-05	2.300E-03	5.519E-02	1.042E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.533E-05	3.373E-05	4.292E-05	1.165E-05	6.439E-05

Unlimited Combined HAPs: 0.06

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	-	-	-
Potential Emission in tons/yr	-	-	-
Summed Potential Emissions in tons/yr		-	
CO2e Total in tons/yr		-	

Note:
*GHG emissions are shown on Page 7 of TSD App A for HT Heater 2 (H-501) Off-gas Combustion

Appendix A: Emissions Calculations
HT Heater 2 (H-501) Off-Gas Combustion

Company Name: **Heritage-Crystal Clean, LLC**
Address City IN Zip: **3970 West 10th Street, Indianapolis, IN 46222**
Permit Number: **097-31757-00670**
Plt ID: **097-00670**
Reviewer: **Jason R. Krawczyk**
Date: **December 18, 2012**

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
3.00	26.28	HT Heater 2 (H-501)
3.00	26.28	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	3.0	8.7	8.7	-	-	5.5	-
Emission Factor in lb/MMBtu	-	-	-	0.35	0.11	-	0.09
Potential Emissions in tons/yr	3.94E-02	0.11	0.11	15.33 **see below	4.88 **see below	7.23E-02	4.10 **see below

Note:
PM, PM10, and PM2.5 emission factors from WebFIRE for SCC #1-02-007-01 (Petroleum Refinery Gas)
VOC emission factor from AP-42 Chapter 1.4, Table 1.4-2, since it is higher than the WebFIRE emisison factor.
SO2, NOx, and CO emission factors based on stack test performed February 7, 2012 on Vacuum Heater H-400.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
**Source has requested an SO2 limit of 0.50 lbs/hr, NOx limit of 1.25 lbs/hr, and CO limit of 1.00 lbs/hr.
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of offgas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

PM, PM10, PM2.5, VOC
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

SO2, NOx, CO
Potential Emisssions (tons/yr) = Total Heat Input Capacity (10.00 MMBtu/hr) * 8,760 hrs/yr * Emission Factor (lb/MMBtu) / 2,000 lbs/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.759E-05	1.577E-05	9.855E-04	2.365E-02	4.468E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.570E-06	1.445E-05	1.840E-05	4.993E-06	2.759E-05
				Unlimited Combined HAPs:	**2.48E-02**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	142,103	2.72	2.61
Potential Emission in tons/yr	6,224	0.12	0.11
Summed Potential Emissions in tons/yr	6,224		
CO2e Total in tons/yr	6,262		

Methodology
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 with a 1.18419 safety factor applied.
Emission Factors are higher than those from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 for natural gas combustion.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Combined Natural Gas and Off-gas Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
HT Heater 3 (H-502) Natural Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
6.00	52.6	HT Heater 3 (H-502)
6.00	52.6	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	25 **see below	5.5	84
Potential Emission in tons/yr	0.05	0.20	0.20	0.02	0.66	0.14	2.21

Note:
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factor for NOx based on vendor guarantee for low NOx burners.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	5.519E-05	3.154E-05	1.971E-03	4.730E-02	8.935E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.314E-05	2.891E-05	3.679E-05	9.986E-06	5.519E-05

Unlimited Combined HAPs: 0.05

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	142,103	2.72	2.61
Potential Emission in tons/yr	3,734	0.1	0.1
Summed Potential Emissions in tons/yr	3,735		
CO2e Total in tons/yr	3,757		

Methodology
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 with a 1.18419 safety factor applied.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Vacuum Heater H-400 Natural Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
25.00	219.0	Vacuum Heater (H-400)
25.00	219.0	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	10	30	5.5	66
Potential Emissions (tons/yr)	0.21	0.83	0.83	1.10 **See Below	3.29 **See Below	0.60	7.23 **See Below

Note:
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
SO2 emission factor is based on engineering estimates from process data. Emission Factor for NOx based on vendor guarantee for low NOx burners.
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Source has requested an SO2 limit of 0.25 lbs/hr, NOx limit of 0.75 lbs/hr, and CO limit of 1.65 lbs/hr when H-400 is burning natural gas.
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of natural gas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.300E-04	1.314E-04	8.213E-03	1.971E-01	3.723E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.475E-05	1.205E-04	1.533E-04	4.161E-05	2.300E-04

Unlimited Combined HAPs: 0.21

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	142,103	2.72	2.61
Potential Emission in tons/yr	15,560	0.30	0.29
Summed Potential Emissions in tons/yr	15,561		
CO2e Total in tons/yr	15,655		

Methodology
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 with a 1.18419 safety factor applied.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Vacuum Heater H-400 Combined Off Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
25.00	219.00	Vacuum Heater (H-400)
25.00	219.00	

Potential Emissions from Combined Off Gas Combustion

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	3.0	8.7	8.7	-	-	5.5	-
Emission Factor in lb/MMBtu	-	-	-	0.46	0.03	-	0.07
Potential Emissions (tons/yr)	0.33	0.95	0.95	40.30 **See Below	2.63 **See Below	0.60	7.23 **See Below

Note:
PM, PM10, and PM2.5 emission factors from WebFIRE for SCC #1-02-007-01 (Petroleum Refinery Gas)
VOC emission factor from AP-42 Chapter 1.4, Table 1.4-2, since it is higher than the WebFIRE emisison factor.
SO2, NOx, and CO emission factors based on stack test performed February 7, 2012.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
**Source has requested an SO2 limit of 11.5 lbs/hr, NOx limit of 0.75 lbs/hr, and CO limit of 1.65 lbs/hr when H-400 is burning offgas.
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of combined off gas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

PM, PM10, PM2.5, VOC
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

SO2, NOx, CO
Potential Emisssions (tons/yr) = Total Heat Input Capacity (20.00 MMBtu/hr) * 8,760 hrs/yr * Emission Factor (lb/MMBtu) / 2,000 lbs/ton

Potential HAP Emissions from Combined Off Gas Combustion

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.300E-04	1.314E-04	8.213E-03	1.971E-01	3.723E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.475E-05	1.205E-04	1.533E-04	4.161E-05	2.300E-04
				Unlimited Combined HAPs:	**0.21**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Potential Greenhouse Gas Emissions from Combined Off Gas Combustion

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu	187	7.60E-03	1.52E-03
Potential Emission in tons/yr	20,504	0.83	0.17
Summed Potential Emissions in tons/yr	20,505		
CO2e Total in tons/yr	20,573		

Note:
No CO2e emission factors exist for the specific process off gas combusted in vacuum heater H-400.
CO2 Emission Factor is from Table C-1 to Subpart C of 40 CFR Part 98 for No.2 fuel oil and includes a 1.14842 Safety Factor.
CH4 and N2O Emission Factors are from Table C-2 Subpart C of 40 CFR Part 98 for Petroleum and include a 1.14842 Safety Factor.
Assumed 1 kg. = 2.2046226 lb

Methodology
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8,760 hrs x (1 ton/2,000 lb)
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Dehydration Heater H-402 Natural Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
9.00	78.8	Dehydration Heater (H-402)
9.00	78.8	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	-	-	5.5	-
Potential Emissions in tons/yr	0.07	0.30	0.30	- **See Below	- **See Below	0.22	- **See Below

Note:
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**SO2, NOx, and CO emissions are shown on Page 14 of TSD App A for Dehydration Heater H-402 Off-gas Combustion
*** The heat input capacity listed only represents the portion of the unit dedicated to combustion of natural gas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	8.278E-05	4.730E-05	2.957E-03	7.096E-02	1.340E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.971E-05	4.336E-05	5.519E-05	1.498E-05	8.278E-05

Unlimited Combined HAPs: 0.07

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	-	-	-
Potential Emission in tons/yr	-	-	-
Summed Potential Emissions in tons/yr		-	
CO2e Total in tons/yr		-	

Note:
*GHG emissions are shown on Page 14 of TSD App A for Dehydration Heater H-402 Off-gas Combustion

Appendix A: Emissions Calculations
Dehydration Heater H-402 Vaporized Distillate Fuel Combustion

Company Name: **Heritage-Crystal Clean, LLC**
Address City IN Zip: **3970 West 10th Street, Indianapolis, IN 46222**
Permit Number: **097-31757-00670**
Plt ID: **097-00670**
Reviewer: **Jason R. Krawczyk**
Date: **December 18, 2012**

Heat Input Capacity*** MMBtu/hr	Potential Throughput kgals/year	Emission Unit ID
45	2815.71	Dehydration Heater (H-402)
45	2815.71	

	Pollutant						
	PM*	PM10	PM2.5	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	2.0	2.0	-	-	0.20	-
Potential Emissions in tons/yr	2.82	2.82	2.82	- **See Below	- **See Below	0.28	- **See Below

Notes:
Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-02-005-01/02/03) Supplement E 9/98
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
**SO2, NOx, and CO emissions are shown on Page 14 of TSD App A for Dehydration Heater H-402 Off-gas Combustion
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of vaporized distillate fuel.

Methodology:
1 gallon of No. 2 Fuel Oil has a heating value of 140,000 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
Potential Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	-	-	-
Potential Emission in tons/yr	-	-	-
Summed Potential Emissions in tons/yr		-	
CO2e Total in tons/yr		-	

Note:
*GHG emissions are shown on Page 14 of TSD App A for Dehydration Heater H-402 Off-gas Combustion

Appendix A: Emissions Calculations
Dehydration Heater H-402 Vaporized Distillate Fuel Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

	HAPs					
	Benzene	Ethylbenzene	Napthalene	1,1,1 - Trichloroethane	Toluene	0-Xylene
Emission Factor in lb/kgal	2.14E-04	6.36E-05	1.13E-03	2.36E-04	6.20E-03	1.09E-04
Potential Emission in tons/yr	3.01E-04	8.95E-05	1.59E-03	3.32E-04	8.73E-03	1.53E-04

	HAPs (continued)					
	Acenaphthene	Acenaphthylene	Benz(a)anthracene	Benzo(b,k)fluoracene	Benzo(g,h,i)perylene	Chrysene
Emission Factor in lb/kgal	2.11E-05	2.53E-07	4.01E-06	1.48E-06	2.26E-06	2.38E-06
Potential Emission in tons/yr	2.97E-05	3.56E-07	5.65E-06	2.08E-06	3.18E-06	3.35E-06

	HAPs (continued)					
	Dibobenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
Emission Factor in lb/kgal	1.67E-06	4.84E-06	4.47E-06	2.14E-06	1.05E-05	4.25E-06
Potential Emission in tons/yr	2.35E-06	6.81E-06	6.29E-06	3.01E-06	1.48E-05	5.98E-06

	HAPs (continued)					
	OCDD	Antimony	Arsenic	Barium	Beryllium	Cadmium
Emission Factor in lb/kgal	3.10E-09	5.25E-03	1.32E-03	2.57E-03	2.78E-05	3.98E-04
Potential Emission in tons/yr	4.36E-09	7.39E-03	1.86E-03	3.62E-03	3.91E-05	5.60E-04

	HAPs (continued)					
	Chloride	Chromuim	Chromium VI	Cobalt	Copper	Fluoride
Emission Factor in lb/kgal	3.47E-01	8.45E-04	2.48E-04	6.02E-03	1.76E-03	3.73E-02
Potential Emission in tons/yr	4.89E-01	1.19E-03	3.49E-04	8.48E-03	2.48E-03	5.25E-02

	HAPs (continued)					
	Lead	Manganese	Mercury	Molubdenum	Nickel	Phosphorous
Emission Factor in lb/kgal	1.51E-03	3.00E-03	1.13E-04	7.87E-04	8.45E-02	9.46E-03
Potential Emission in tons/yr	2.13E-03	4.22E-03	1.59E-04	1.11E-03	1.19E-01	1.33E-02

	HAPs (continued)				
	Selenium	Vanadium	Zinc	Formaldehyde	Anthracene
Emission Factor in lb/kgal	6.83E-04	3.18E-02	2.91E-02	3.30E-02	1.22E-06
Potential Emission in tons/yr	9.62E-04	4.48E-02	4.10E-02	4.65E-02	1.72E-06

Unlimited Combined HAPs: **0.85**

Note:
Methodology is the same as page 12.
Emission Factors are from AP 42, Tables 1.3-9 and 1.3-11.

Appendix A: Emissions Calculations
Dehydration Heater H-402 Combined Off Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity**** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
6.00	52.56	Dehydration Heater (H-402)
6.00	52.56	

Potential Emissions from Combined Off Gas Combustion

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	3.0	8.7	8.7	-	-	5.5	-
Emission Factor in lb/MMBtu	-	-	-	0.18	0.24	-	0.25
Potential Emission in tons/yr	0.08	0.23	0.23	48.49 **See Below	63.47 **See Below	0.14	66.95 **See Below

Note:
PM, PM10, and PM2.5 emission factors from WebFIRE for SCC #1-02-007-01 (Petroleum Refinery Gas)
VOC emission factor from AP-42 Chapter 1.4, Table 1.4-2, since it is higher than the WebFIRE emisison factor.
SO2, NOx, and CO emission factors based on stack test performed February 7, 2012, performed on Back-up Dehydration Heater H-401.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
**Source has requested an SO2 limit of 22.00 lbs/hr, NOx limit of 17.00 lbs/hr, and CO limit of 17.00 lbs/hr.
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of offgas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

PM, PM10, PM2.5, VOC
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

SO2, NOx, CO
Potential Emisssions (tons/yr) = Total Heat Input Capacity (60.00 MMBtu/hr) * 8,760 hrs/yr * Emission Factor (lb/MMBtu) / 2,000 lbs/ton

Potential Emissions (HAPs) from Combined Off Gas Combustion

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	5.519E-05	3.154E-05	1.971E-03	4.730E-02	8.935E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.314E-05	2.891E-05	3.679E-05	9.986E-06	5.519E-05
				Unlimited Combined HAPs:	**4.96E-02**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Potential Greenhouse Gas Emissions from Combined Off Gas Combustion

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu	184	7.47E-03	1.49E-03
Potential Emission in tons/yr	48,375	1.96	0.39
Summed Potential Emissions in tons/yr	48,377		
CO2e Total in tons/yr	48,538		

Note:
No CO2e emission factors exist for the specific process off gas combusted in Dehydration Heater H-402.
CO2 Emission Factor is from Table C-1 to Subpart C of 40 CFR Part 98 for No.2 fuel oil and includes a 1.12892 Safety Factor.
CH4 and N2O Emission Factors are from Table C-2 Subpart C of 40 CFR Part 98 for Petroleum and include a 1.12892 Safety Factor.
Assumed 1 kg. = 2.2046226 lb

Methodology
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Combined Nat. Gas, Vaporized Distillate, and Off-Gas Heat Input Capacities (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8,760 hrs x (1 ton/2,000 lb)
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Back-up Dehydration Heater H-401 Natural Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity*** MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
4.00	35.0	Back-up Dehydration Heater (H-401)
4.00	35.0	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100	5.5	84
Potential Emissions in tons/yr	0.03	0.13	0.13	- **See Below	- **See Below	0.10	- **See Below

Note:
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is filterable and condensable PM2.5 combined.
**SO2, NOx, and CO emissions are shown on Page 18 of TSD App A for Back-up Dehydration Heater H-401 Off-gas Combustion
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of natural gas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.679E-05	2.102E-05	1.314E-03	3.154E-02	5.957E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	8.760E-06	1.927E-05	2.453E-05	6.658E-06	3.679E-05

Unlimited Combined HAPs: 0.03

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	-	-	-
Potential Emission in tons/yr	-	-	-
Summed Potential Emissions in tons/yr		-	
CO2e Total in tons/yr		-	

Note:
*GHG emissions are shown on Page 18 of TSD App A for Back-up Dehydration Heater H-401 Off-gas Combustion

Appendix A: Emissions Calculations
Back-up Dehydration Heater H-401 Vaporized Distillate Fuel Combustion

Company Name: **Heritage-Crystal Clean, LLC**
Address City IN Zip: **3970 West 10th Street, Indianapolis, IN 46222**
Permit Number: **097-31757-00670**
Plt ID: **097-00670**
Reviewer: **Jason R. Krawczyk**
Date: **December 18, 2012**

Heat Input Capacity*** MMBtu/hr	Potential Throughput kgals/year	Emission Unit ID
28.00	1752.00	Back-up Dehydration Heater (H-401)
28.00	1752.00	

	Pollutant						
	PM*	PM10	PM2.5	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	2.0	2.0	-	-	0.20	-
Potential Emissions in tons/yr	1.75	1.75	1.75	- **See Below	- **See Below	0.18	- **See Below

Notes:
Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-02-005-01/02/03) Supplement E 9/98
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
**SO2, NOx, and CO emissions are shown on Page 18 of TSD App A for Back-up Dehydration Heater H-401 Off-gas Combustion
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of vaporized distillate fuel.

Methodology:
1 gallon of No. 2 Fuel Oil has a heating value of 140,000 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
Potential Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	-	-	-
Potential Emission in tons/yr	-	-	-
Summed Potential Emissions in tons/yr		-	
CO2e Total in tons/yr		-	

Note:
*GHG emissions are shown on Page 18 of TSD App A for Back-up Dehydration Heater H-401 Off-gas Combustion

Appendix A: Emissions Calculations
Dehydration Heater H-401 Vaporized Distillate Fuel Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

	HAPs					
	Benzene	Ethylbenzene	Napthalene	1,1,1 - Trichloroethane	Toluene	0-Xylene
Emission Factor in lb/kgal	2.14E-04	6.36E-05	1.13E-03	2.36E-04	6.20E-03	1.09E-04
Potential Emission in tons/yr	1.87E-04	5.57E-05	9.90E-04	2.07E-04	5.43E-03	9.55E-05

	HAPs (continued)					
	Acenaphthene	Acenaphthylene	Benz(a)anthracene	Benzo(b,k)fluoracene	Benzo(g,h,i)perylene	Chrysene
Emission Factor in lb/kgal	2.11E-05	2.53E-07	4.01E-06	1.48E-06	2.26E-06	2.38E-06
Potential Emission in tons/yr	1.85E-05	2.22E-07	3.51E-06	1.30E-06	1.98E-06	2.08E-06

	HAPs (continued)					
	Dibobenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
Emission Factor in lb/kgal	1.67E-06	4.84E-06	4.47E-06	2.14E-06	1.05E-05	4.25E-06
Potential Emission in tons/yr	1.46E-06	4.24E-06	3.92E-06	1.87E-06	9.20E-06	3.72E-06

	HAPs (continued)					
	OCDD	Antimony	Arsenic	Barium	Beryllium	Cadmium
Emission Factor in lb/kgal	3.10E-09	5.25E-03	1.32E-03	2.57E-03	2.78E-05	3.98E-04
Potential Emission in tons/yr	2.72E-09	4.60E-03	1.16E-03	2.25E-03	2.44E-05	3.49E-04

	HAPs (continued)					
	Chloride	Chromuim	Chromium VI	Cobalt	Copper	Fluoride
Emission Factor in lb/kgal	3.47E-01	8.45E-04	2.48E-04	6.02E-03	1.76E-03	3.73E-02
Potential Emission in tons/yr	3.04E-01	7.40E-04	2.17E-04	5.27E-03	1.54E-03	3.27E-02

	HAPs (continued)					
	Lead	Manganese	Mercury	Molubdenum	Nickel	Phosphorous
Emission Factor in lb/kgal	1.51E-03	3.00E-03	1.13E-04	7.87E-04	8.45E-02	9.46E-03
Potential Emission in tons/yr	1.32E-03	2.63E-03	9.90E-05	6.89E-04	7.40E-02	8.29E-03

	HAPs (continued)				
	Selenium	Vanadium	Zinc	Formaldehyde	Anthracene
Emission Factor in lb/kgal	6.83E-04	3.18E-02	2.91E-02	3.30E-02	1.22E-06
Potential Emission in tons/yr	5.98E-04	2.79E-02	2.55E-02	2.89E-02	1.07E-06

Unlimited Combined HAPs: **0.53**

Note:
Methodology is the same as page 16.
Emission Factors are from AP 42, Tables 1.3-9 and 1.3-11.

Appendix A: Emissions Calculations
Back-up Dehydration Heater H-401 Combined Off Gas Combustion

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Heat Input Capacity***	Potential Throughput	Emission Unit
MMBtu/hr	MMCF/yr	ID
4.00	35.04	Back-up Dehydration Heater (H-401)
4.00	35.04	

Potential Emissions from Combined Off Gas Combustion

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	3.0	8.7	8.7	-	-	5.5	-
Emission Factor in lb/MMBtu	-	-	-	0.21	0.27	-	0.28
Potential Emissions in tons/yr	0.05	0.15	0.15	32.32 **See Below	42.31 **See Below	9.64E-02	44.63 **See Below

Note:
PM, PM10, and PM2.5 emission factors from WebFIRE for SCC #1-02-007-01 (Petroleum Refinery Gas)
VOC emission factor from AP-42 Chapter 1.4, Table 1.4-2, since it is higher than the WebFIRE emisison factor.
SO2, NOx, and CO emission factors based on stack test performed February 7, 2012.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
**Source has requested an SO2 limit of 13.00 lbs/hr, NOx limit of 10.00 lbs/hr, and CO limit of 10.00 lbs/hr.
***The heat input capacity listed only represents the portion of the unit dedicated to combustion of offgas.

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

PM, PM10, PM2.5, VOC
Potential Emissions (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

SO2, NOx, CO
Potential Emisssions (tons/yr) = Total Heat Input Capacity (36.00 MMBtu/hr) * 8,760 hrs/yr * Emission Factor (lb/MMBtu) / 2,000 lbs/ton

Potential Emissions (HAPs) from Combined Off Gas Combustion

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.679E-05	2.102E-05	1.314E-03	3.154E-02	5.957E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	8.760E-06	1.927E-05	2.453E-05	6.658E-06	3.679E-05
				Unlimited Combined HAPs:	**3.31E-02**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Potential Greenhouse Gas Emissions from Combined Off Gas Combustion

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu	205	8.31E-03	1.66E-03
Potential Emission in tons/yr	32,292	1.31	0.26
Summed Potential Emissions in tons/yr	32,293		
CO2e Total in tons/yr	32,400		

Note:
No CO2e emission factors exist for the specific process off gas combusted in Back-up Dehydration Heater H-401.
CO2 Emission Factor is from Table C-1 to Subpart C of 40 CFR Part 98 for No.2 fuel oil and includes a 1.25598 Safety Factor.
CH4 and N2O Emission Factors are from Table C-2 Subpart C of 40 CFR Part 98 for Petroleum and include a 1.25598 Safety Factor.
Assumed 1 kg. = 2.2046226 lb

Methodology
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Combined Nat. Gas, Vaporized Distillate, and Off-Gas Heat Input Capacities (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8,760 hrs x (1 ton/2,000 lb)
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Fire Water Pump Engine 1

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	300.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	150,000

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx*	VOC	CO*
Emission Factor in lb/hp-hr	0.00033	0.0003	0.0003	0.0021	0.0066	0.0025	0.0057
Potential Emission in tons/yr	0.02	0.02	0.02	0.15	0.50	0.19	0.43

*PM10 and PM2.5 emission factors are assumed to be equivalent to PM emission factors. PM, NOx, and CO emission factors are from New Source Performance Standard (NSPS) Subpart IIII emission factors for Tier 3 certified fire pump engines, which are higher than the EPA certified emission results for this Model engine.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.90E-04	2.15E-04	1.50E-04	2.05E-05	6.20E-04	4.03E-04	4.86E-05	8.82E-05

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**2.03E-03**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	#######	4.63E-05	9.26E-06
Potential Emission in tons/yr	#######	3.47E-03	6.94E-04

Summed Potential Emissions in tons/yr	**86.25**
CO2e Total in tons/yr	**86.54**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Fire Water Pump Engine 2

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	300.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	150,000

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx*	VOC	CO*
Emission Factor in lb/hp-hr	0.00033	0.0003	0.0003	0.0021	0.0066	0.0025	0.0057
Potential Emission in tons/yr	0.02	0.02	0.02	0.15	0.50	0.19	0.43

*PM10 and PM2.5 emission factors are assumed to be equivalent to PM emission factors. PM, NOx, and CO emission factors are from New Source Performance Standard (NSPS) Subpart IIII emission factors for Tier 3 certified fire pump engines, which are higher than the EPA certified emission results for this Model engine.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.90E-04	2.15E-04	1.50E-04	2.05E-05	6.20E-04	4.03E-04	4.86E-05	8.82E-05

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**2.03E-03**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	#######	4.63E-05	9.26E-06
Potential Emission in tons/yr	#######	3.47E-03	6.94E-04

Summed Potential Emissions in tons/yr	**86.25**
CO2e Total in tons/yr	**86.54**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Used Solvent Transfer Operation
VOC Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Used Solvent Transfer Operations

Process Material	Throughput (gal)	Winter Emission Factor (lb/gal)	Summer Emission Factor (lb/gal)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
Used Antifreeze	144,540,000	7.70E-06	1.70E-05	1785.07	0.89
Used Paint Gun Cleaner	2,628,000	1.20E-03	2.10E-03	4336.20	2.17
Used Mineral Spirits	44,320,000	4.70E-05	9.90E-05	3235.36	1.62
Combined Oil / Oily Water	39,420,000	2.80E-09	1.10E-08	0.27	0.00
Used Immersion Cleaner	7,884,000	1.60E-04	1.70E-04	1300.86	0.65
Hazardous waste water	144,000	2.80E-09	1.10E-08	0.00	0.00
Non-regulated tanker wash (fuel from mineral spirits)	216,000	2.80E-09	1.10E-08	0.00	0.00
			Potential Emissions:	**10657.76**	**5.33**

Note:
VOC Emission Factor (lb/gal) = 12.46 * S * P * M / T / 1000

Where:
S = Saturation Factor
P = (psia)
M = (lb/lb-mol)
T = (^{o}R)

per Loading Loss Equation - U.S. EPA EIIP, Volume II: Chapter 8, Equation 8.4-1 (02/2005)

Methodology:
Potential Emissions (lbs/yr) = Throughput (gal) * Average (Winter Emission Factor (lb/gal) , Summer Emission Factor (lb/gal))
Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Used Solvent Transfer Operation
HAP Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Used Solvent Transfer Operations

Process Material	Throughput (gal)	Winter Emission Factor (lb/gal)	Summer Emission Factor (lb/gal)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
Used Antifreeze	144,540,000	7.65E-06	1.67E-05	1759.97	0.88
Used Paint Gun Cleaner	2,628,000	8.33E-04	1.48E-03	3033.88	1.52
			Potential Emissions:	**4793.86**	**2.40**

Note:
HAP Emission Factor (lb/gal) = VOC Emission Factor (lb/gal) x (HAP%)
Antifreeze may be 100% Ethylene Glycol

Methodology:
Potential Emissions (lbs/yr) = Throughput (gal) * Average (Winter Emission Factor (lb/gal) , Summer Emission Factor (lb/gal))
Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Combined Clean Mineral Spirits Operation
VOC Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Combined Clean Mineral Spirits Operation

Process Material	Throughput (gal)	Winter Emission Factor (lb/gal)	Summer Emission Factor (lb/gal)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
Combined Clean Mineral Spirits	52,560,000	6.69E-05	1.42E-04	5500.45	2.75
			Potential Emissions:	**5500.45**	**2.75**

Note:
Emission Factor (lb/gal) = 12.46 * S * P * M / T / 1000

Where:
S = Saturation Factor
P = (psia)
M = (lb/lb-mol)
T = (^{o}R)

per Loading Loss Equation - U.S. EPA EIIP, Volume II: Chapter 8, Equation 8.4-1 (02/2005)

Methodology:
Potential Emissions (lbs/yr) = Throughput (gal) * Average (Winter Emission Factor (lb/gal) , Summer Emission Factor (lb/gal))
Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Mineral Spirits Drip Tray Evaporation
VOC Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Mineral Spirits Drip Tray Evaporation

Process Material	Hours of Operation	Winter Emission Factor (lb/hr)	Summer Emission Factor (lb/hr)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
Mineral Spirits	8,760	2.70E-02	5.80E-02	372.30	0.19
			Potential Emissions:	**372.30**	**0.19**

Note:
Emission Factor (lb/hr) = M * K * A * P * 3,600 / (R*T)

Where:

M = (lb/lb-mole) P = (psia)
K = (ft/sec) R = (psia-ft^3/^{o}R-lb-mole)
A = (ft^2) T = (^{o}R)

per U.S. EPA EIIP, Volume II: Chapter 8, Equation 8.4-19 (02/2005)

Methodology:
Potential Emissions (lbs/yr) = Hours of Operation * Average (Winter Emission Factor (lb/hr) , Summer Emission Factor (lb/hr))
Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Lube Oil Transfer Operations
VOC / HAP Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Lube Oil Transfer Operations

Process Material	Throughput (gal)	Winter Emission Factor (lb/gal)	Summer Emission Factor (lb/gal)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
Asphalt Transfer Operations	10,980,000	6.80E-06	6.52E-06	73.13	0.04
HT Fuel Transfer Operations	5,460,000	1.36E-04	1.30E-04	726.18	0.36
HT Finished Lube/VLO Transfer Operations	47,100,000	6.80E-06	6.52E-06	313.69	0.16
Spent Caustic Transfer Operations	1,060,500	6.45E-06	6.18E-06	6.70	0.00
			Potential Emissions:	**1119.69**	**0.56**

Note:
Assume VOC = HAPs

Emission Factor (lb/gal) = 12.46 * S * P * M / T / 1000

Where:
S = Saturation Factor
P = (psia)
M = (lb/lb-mol)
T = (^{o}R)

per Loading Loss Equation - U.S. EPA EIIP, Volume II: Chapter 8, Equation 8.4-1 (02/2005)

Methodology:
Potential Emissions (lbs/yr) = Throughput (gal) * Average (Winter Emission Factor (lb/gal) , Summer Emission Factor (lb/gal))
Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Process Tanks
VOC / HAPs Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Tank ID	Tank Content	Tank Orientation	Shell Height/Length (ft)	Average Liquid Height (ft)	Shell Diameter (ft)	Vapor Molecular Weight (lb/lb mol)	Vapor Pressure (psia)	Nominal Capacity (gal)	Potential Throughput (gal/yr)	Annual Tank Inventory Turnover	Annual Emissions (lbs/yr)	Annual Emissions (tons/yr)
Tank 1	Used Oil	Vertical	34.50	17.25	10.00	100	3.72E-03	20,000	2,400,000	120.00	10.15	5.08E-03
Tank 2	142 Mineral Spirits	Vertical	34.50	17.25	10.00	100	1.00E-03	20,000	3,400,000	170.00	3.13	1.57E-03
Tank 3	Reuse	Vertical	34.50	17.25	10.00	100	1.00E-03	20,000	3,000,000	150.00	2.97	1.49E-03
Tank 4	Oily Water	Vertical	34.50	17.25	10.00	100	3.72E-03	20,000	1,500,000	75.00	8.82	4.41E-03
Tank 5	Used OIl	Vertical	34.50	17.25	10.00	100	3.72E-03	20,000	1,500,000	75.00	8.82	4.41E-03
Tank 6	Virgin 106/142	Vertical	34.50	17.25	10.00	100	1.00E-03	20,000	3,620,000	181.00	3.21	1.61E-03
Tank 7	Non-Haz Waste 142	Vertical	30.00	15.00	20.00	100	1.00E-03	71,000	3,620,000	50.99	7.73	3.87E-03
Tank 8	HT Lube	Vertical	48.00	24.00	60.00	250	1.00E-03	1,000,000	15,642,000	15.64	135.45	6.77E-02
Tank 9	HT Lube	Vertical	48.00	24.00	60.00	250	1.00E-03	1,000,000	15,642,000	15.64	135.45	6.77E-02
Tank 10	142 MS Product	Vertical	35.00	17.50	10.50	100	1.00E-03	22,500	2,000,000	88.89	2.79	1.40E-03
Tank 11	142 MS Product	Vertical	35.00	17.50	10.50	100	1.00E-03	22,500	1,500,000	66.67	2.59	1.30E-03
Tank 12	Side-Cut / 142 MS	Vertical	35.00	17.50	10.50	100	1.00E-03	22,500	1,260,000	56.00	2.50	1.25E-03
Tank 13	Side-Cut / 142 MS	Vertical	35.00	17.50	10.50	100	1.00E-03	22,500	1,260,000	56.00	2.50	1.25E-03
Tank 14	142 O/H Water	Vertical	35.00	17.50	10.50	130	5.30E-03	19,000	300,000	15.79	7.60	3.80E-03
Tank 15	Odorless	Vertical	35.00	17.50	10.50	100	1.00E-03	22,500	240,000	10.67	0.96	4.80E-04
Tank 16	Non-Haz Waste 142	Vertical	35.00	17.50	10.00	100	1.00E-03	19,000	2,550,000	134.21	2.72	1.36E-03
Tank 17	Mineral Spirits	Vertical	17.00	8.50	10.00	100	1.00E-03	10,000	2,000,000	200.00	1.63	8.15E-04
Tank 18	Asphalt	Vertical	35.00	17.50	12.00	300	1.00E-03	30,000	5,430,000	181.00	15.88	7.94E-03
Tank 19	Asphalt	Vertical	35.00	17.50	12.00	300	1.00E-03	30,000	5,430,000	181.00	15.88	7.94E-03
Tank 21	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	8,500,000	283.33	22.40	1.12E-02
Tank 22	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	8,500,000	283.33	22.40	1.12E-02
Tank 23	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	8,500,000	283.33	22.40	1.12E-02
Tank 24	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	8,500,000	283.33	22.40	1.12E-02
Tank 25	HT Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	1,000,000	33.33	74.87	3.74E-02
Tank 26	HT Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	1,000,000	33.33	74.87	3.74E-02
Tank 27	VLO	Vertical	35.00	17.50	12.00	130	1.00E-03	30,000	1,950,000	65.00	4.45	2.23E-03
Tank 28	VLO	Vertical	35.00	17.50	12.00	130	1.00E-03	30,000	450,000	15.00	2.05	1.03E-03
Tank 29	HT Lube	Vertical	35.00	17.50	12.00	250	1.00E-03	30,000	23,463,000	782.10	29.48	1.47E-02
Tank 30	HT Lube	Vertical	35.00	17.50	12.00	250	1.00E-03	30,000	23,463,000	782.10	29.48	1.47E-02
Tank 31	Sour Water	Vertical	35.00	17.50	12.00	18	1.00E-02	30,000	4,500,000	150.00	7.68	3.84E-03
Tank 32	Fresh Caustic	Vertical	35.00	17.50	12.00	N/A	N/A	30,000	N/A	N/A	N/A	N/A
Tank 33	Spent Caustic	Vertical	35.00	17.50	12.00	18	1.00E-02	30,000	2,600,000	86.67	7.50	3.75E-03
Tank 34	HT Lube	Vertical	43.00	21.50	80.00	250	1.00E-03	1,600,000	46,926,000	29.33	347.23	1.74E-01
Tank 35	Used Oil	Vertical	40.00	20.00	93.00	100	3.72E-03	1,800,000	75,000,000	41.67	716.26	3.58E-01
Tank 36	Firewater	Vertical	48.00	24.00	60.00	N/A	N/A	1,000,000	N/A	N/A	N/A	N/A
Tank 37	Asphalt	Vertical	48.00	24.00	60.00	300	1.00E-03	1,000,000	1,500,000	1.50	10.71	5.36E-03
Tank 38	VLO	Vertical	48.00	24.00	60.00	130	1.00E-03	1,000,000	1,500,000	1.50	26.66	1.33E-02
Tank 39	Non-Haz Waste 142	Vertical	48.00	24.00	50.00	100	1.00E-03	1,000,000	9,000,000	9.00	38.37	1.92E-02
Tank 42	HT Water	Vertical	35.00	17.50	12.00	18	1.00E-02	30,000	1,500,000	50.00	5.84	2.92E-03
Tank 43	HT Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	2,500,000	83.33	94.47	4.72E-02
Tank 44	HT Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	2,500,000	83.33	94.47	4.72E-02
Tank 45	Spent Caustic	Vertical	35.00	17.50	12.00	18	1.00E-02	30,000	2,600,000	86.67	7.50	3.75E-03
Tank 46	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	8,500,000	283.33	22.40	1.12E-02
Tank 47	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	8,500,000	283.33	22.40	1.12E-02
Tank 48	Light Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	1,500,000	50.00	84.15	4.21E-02
Tank 49	Light Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	1,500,000	50.00	84.15	4.21E-02
Tank 50	Non-Haz Waste 142	Vertical	35.00	17.50	10.50	100	1.00E-02	22,500	2,550,000	113.33	3.01	1.51E-03
Tank FW Fuel	No. 2 Distillate	Horizontal	9.00	1.50	3.00	130	5.30E-03	360	12,000	33.33	0.27	1.35E-04
										Potential Emissions:	**2248.65**	**1.12**

Note:
Assume VOC = HAPs
Annual Emissions (lbs/yr) determined by use of USEPA Tanks 4.0.9d software program

Methodology:
Annual Emissions (tons/yr) = Annual Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Lube Oil Hydrotreating Unit
VOC Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Lube Oil Hydrotreating Unit

Emission Unit	Hours of Operation	Emission Factor (lb/hr)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
Air Dryer (T-502)	8,760	0.03	262.80	0.13
		Potential Emissions:	**262.80**	**0.13**

Note:
Emission Factor provided by source and based on engineering estimate from process simulation.

Methodology:
Potential Emissions (lbs/yr) = Hours of Operation * Emission Factor (lb/hr)
Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Lube Oil Hydrotreating Unit
H_2S Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Lube Oil Hydrotreating Unit

Emission Unit	Hours of Operation	Emission Factor (lb/hr)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
HIC Relief Valve	100	0.38	37.50	0.02
		Potential Emissions:	**37.50**	**0.02**

Note:

Emission Factor provided by source and based on engineering estimate.

H_2S is emitted to the atmosphere through the HIC relief valve during power failuers. Hours of Operation Conservatively assumes 100 hours of power loss per year.

Methodology:

Emission Factor (lb/hr) = H_2S concentration (750 ppmw) / 1,000,000 * Flow Rate (500 lb/hr)

Potential Emissions (lbs/yr) = Hours of Operation * Emission Factor (lb/hr)

Potential Emissions (tons/yr) = Potential Emissions (lbs/yr) * (1 ton / 2,000 lbs)

Appendix A: Emission Calculations
Cooling Tower Emissions

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

COOLING TOWER EMISSIONS							
Emission Unit	Circulation Rate (gal/hr)	Total Liquid Drift (lb/kgal)	Total Dissolved Solids (avg ppm)	Drift Emission Factor (lb/kgal)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Cooling Tower CT-300	54,000	1.7	1,666	0.003	0.67	0.67	0.67
Cooling Tower CT-301	150,000	1.7	1,666	0.003	1.86	1.86	1.86
				Total:	**2.53**	**2.53**	**2.53**

Note:
Assume PM = PM10 = PM2.5

Methodology:
Drift Emission Factor = Total Liquid Drift (lb/kgal) * Total Dissolved Solids (ppm) *1 / 1,000,000
PM/PM10/PM2.5 Emissions = Circulation Rate (gal/hr) * Drift Emission Factor (lb/kgal) / 1000 gallons * 8760 hrs / 2000 lbs

Appendix A: Emission Calculations
Paved Roads

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31757-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: December 18, 2012

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

/aximum Material Handling Throughput = 228,053,833 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Tanker truck Shipping	Truck	14.5	25.0	39.5	38009.0	1501354	1530	0.290	11014
	Total				**38009**	**1501354**			**11014**

Average Vehicle Weight Per Trip = 39.5 tons/trip
Average Miles Per Trip = 0.290 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL/2)^0.65 * (W/3)^1.5 - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	39.5	39.5	39.5	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	1.5	1.5	1.5	g/m^2 = silt content for paved roads, conservatively assumes 50% winter months, ADT < 500 (AP-42 Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	3.25	0.63	0.09	lb/mile
Mitigated Emission Factor, Eext =	2.97	0.58	0.09	lb/mile

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Tanker Truck Shipping	Truck	17.89	3.49	0.52	16.36	3.19	0.48
	Totals	**17.89**	**3.49**	**0.52**	**16.36**	**3.19**	**0.48**

Methodology
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (gal/yr)] / [Average Load (6000 gal/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)

Material Transferred	**(gal/yr)**
Asphalt	2,196,000
HT (Fuel and Lube)	52,560,000
Caustic	1,060,500
Other Materials	97,237,333
Used Oil	75,000,000
Total Transferred:	**228,053,833**

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Thomas Hillstrom
Heritage-Crystal Clean, LLC
3970 W 10th St
Indianapolis, IN 46222

DATE: February 11, 2013

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

SUBJECT: Final Decision
Significant Permit Modification
097-31757-00670

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Glenn Casbourne (VP – Engineering)
David Wall (Trinity Consultants)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

February 11, 2013

TO: Marion County Public Library – Haughville Branch

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Heritage-Crystal Clean, LLC
Permit Number: 097-31757-00670

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	MIDENNEY 2/11/2013 Heritage-Crystal Clean, LLC 097-31757-00670 (final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Thomas G. Hillstrom Heritage-Crystal Clean, LLC 3970 W 10th St Indianapolis IN 46222-3269 (Source CAATS) via confirm delivery									
2		Glenn Casbourne VP Engineering Heritage-Crystal Clean, LLC 2175 Point Blvd, Ste 375 Elgin IL 60123 *(RO CAATS)*									
3		Marion County Health Department 3838 N, Rural St Indianapolis IN 46205-2930 *(Health Department)*									
4		Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 *(Local Official)*									
5		Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 *(Local Official)*									
6		David Wall Trinity Consultants 1S660 Midwest Road, Ste. 250 Oak Brook Terrace IL 60181 *(Consultant)*									
7		Matt Mosier Office of Sustainability 1200 S Madison Ave #200 Indianapolis IN 46225 *(Local Official)*									
8		Marion County Public Library - Haughville Branch 2121 West Michigan Street Indianapolis IN 46222 *(Library)*									
9		Mr. Tom Glass 1121 N. Exeter Indianapolis IN 46222 *(Affected Party)*									
10											
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
8			

FACSIMILIE OF PS Form 3877