



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
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: January 25, 2012

RE: Heritage-Crystal Clean, LLC / 097-31350-00670

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

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires 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 from 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-AM.dot12/3/07



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

January 25, 2012

Re: 097-31350-00670
First Administrative Amendment 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 distribution facility located at 3970 W. 10th Street, Indianapolis, IN 46222. On January 11, 2012, the Office of Air Quality (OAQ) received an application from the source requesting the removal of the SO₂ control efficiency testing requirements of the inlets and outlets of scrubbers V-403 and T-501. This change to the permit is considered an administrative amendment pursuant to 326 IAC 2-8-10(a)(5), since it is a revision to a monitoring, maintenance, or record keeping requirement that is not environmentally significant. The facility is still required to perform SO₂ and NO_x testing for the vacuum heater H-400 exhaust and the dehydration heater H-401 exhaust and shall continue to monitor and record the pressure drops, flow rates, and pH of scrubbers V-403 and T-501.

Pursuant to the provisions of 326 IAC 2-8-10, the permit is hereby administratively amended as follows with the deleted language as strikeouts and new language **bolded**:

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

...
(e) ~~In order to demonstrate compliance with Conditions D.1.2(d) and D.1.2(e), the Permittee shall perform SO₂ control efficiency testing on the inlet and outlet of scrubber V-403, 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.~~

(f) ~~In order to demonstrate compliance with Condition D.1.2(f), the Permittee shall perform SO₂ control efficiency testing on the inlet and outlet of scrubber T-501, 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.~~

IDEM, OAQ has decided to make additional revisions to the permit as described below in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

1. Section A.1 of the permit and the reporting forms have been revised to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.
2. IDEM has decided to remove the last sentence dealing with the need for certification from the forms because the conditions requiring the forms already addresses this issue.
3. Pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit 100,000 tons per year or more of CO₂ equivalent emissions (CO₂e). Therefore, CO₂e emissions have been calculated for this source. Based on the calculations the unlimited potential to emit greenhouse gases from the entire source is less than 100,000 tons of CO₂e per year (see Appendix A for detailed calculations).

The permit has been revised as follows with deleted language as ~~strikeouts~~ and new language **bolded**:

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

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, IN 46222~~
...

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 CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.**

...
FESOP CERTIFICATION FORM:

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~
...

FESOP EMERGENCY OCCURRENCE REPORT FORM:

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~

...
~~A certification is not required for this report.~~

FESOP QUARTERLY REPORT FORM:

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~

...
~~Attach a signed certification to complete this report.~~

FESOP QUARTERLY REPORT FORM:

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~

...
~~Attach a signed certification to complete this report.~~

FESOP QUARTERLY REPORT FORM:

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~

...
~~Attach a signed certification to complete this report.~~

FESOP QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT FORM:

...
Mailing Address: ~~3970 W. 10th Street, Indianapolis, Indiana 46222~~

...
~~Attach a signed certification to complete this report.~~

All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

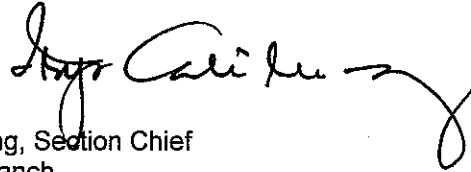
A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Heritage-Crystal Clean, LLC
Indianapolis, Indiana
Permit Reviewer: Jason R. Krawczyk

Page 4 of 4
Administrative Amendment No. 097-31350-00670

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,



Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Updated Permit

IC/JRK

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



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**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: <i>Original Signed By:</i> Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: June 24, 2010 Expiration Date: June 24, 2015

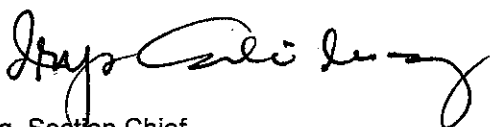
First Administrative Amendment No. F097-31350-00670	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 25, 2012 Expiration Date: June 24, 2015

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)(l)]	
A.4 FESOP Applicability [326 IAC 2-8-2]	
B. GENERAL CONDITIONS	10
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)] [326 IAC 2-8-5(a)(1)]	
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	20
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..... 26

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 (SO₂) [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 (SO₂) Emissions and Sulfur Content

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

- D.1.8 Visible Emissions Notations
- D.1.9 Wet Scrubber Parametric Monitoring
- D.1.10 Process Feed Stream Monitoring

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

- D.1.11 Record Keeping Requirement
- D.1.12 Reporting Requirement

E.1. FACILITY OPERATION CONDITIONS - 35

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 37

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

E.3. FACILITY OPERATION CONDITIONS 38

**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 39
Emergency Occurrence Form 40
Quarterly Report Form 42-44
Quarterly Deviation and Compliance Monitoring Report Form 45
Affidavit of Construction 47

- 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 distribution facility.

Source Address:	3970 W. 10th Street, Indianapolis, IN 46222
General Source Phone Number:	(317) 486-0620
SIC Code:	4212 / 5084
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, approved for construction in 2010, with a maximum capacity of 50 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, with a maximum capacity of 16.33 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, fueled by a combination of natural gas and process stream off-gases, identified as H-400, with a maximum capacity of 17.90 MMBtu/hr, and exhausting through stack H-400;
 - (iii) One (1) dehydration heater, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, and sour water, identified as H-401, with a maximum capacity of 33.0 MMBtu/hr, and exhausting through stack H-401.
 - (iv) One (1) caustic scrubber, identified as V-403, used to remove H₂S from P-400 and MS142 off gasses, prior to entering Vacuum Heater H-400 and Dehydration Heater H-401;
 - (v) One (1) Lube Oil Distillation Unit and ancillary equipment; and

- (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, capable of processing off gas during start-up or shut-down of H-400, identified as H-500, with a nominal rating of 8.30 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-500;
 - (iii) One (1) natural gas process heater, identified as H-501, with a nominal rating of 8.70 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 H₂S from of the hydrogen rich recycle gas used in the reactors.
 - (v) One (1) natural gas process heater, identified as H-502, with a nominal rating of 7.20 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) air dryer, identified as T-502, used to cool and dry the steam stripper bottoms product, exhausting through stack T-502;
 - (viii) One (1) high pressure separator, identified as V-501;
 - (ix) One (1) low pressure caustic flash drum, identified as V-503;
 - (x) One (1) off gas knock out, identified as V-505; and
 - (xi) One (1) caustic cooler heat exchanger, identified as E-503.
- (b) One (1) combined clean mineral spirits operation, identified as P-100, constructed in 1996, 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.
- (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	HT fuel	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 16	Non-Haz Waste 142	19,000
Tank 17	Mineral Spirits	10,000
Tank 18	Asphalt	30,000
Tank 19	Asphalt	30,000
Tank 20	Asphalt	75,000
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	Used Oil	1,000,000
Tank 38	Used Oil	1,000,000
Tank 39	Non-Haz Waste 142	1,000,000

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 (20°C) (sixty-eight degrees Fahrenheit (68°F))
- (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 Fire Water Pump Engine 1 and Fire Water Pump Engine 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)][326 IAC 2-8-5(a)(1)]

(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) through (d) 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) 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) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(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 CO₂ equivalent emissions (CO₂e) 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. 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. 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, approved for construction in 2010, with a maximum capacity of 50 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, with a maximum capacity of 16.33 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, fueled by a combination of natural gas and process stream off-gases, identified as H-400, with a maximum capacity of 17.90 MMBtu/hr, and exhausting through stack H-400;
- (iii) One (1) dehydration heater, fueled by a combination of natural gas, vaporized distillate fuel, dehydration off-gas, and sour water, identified as H-401, with a maximum capacity of 33.0 MMBtu/hr, and exhausting through stack H-401.
- (iv) One (1) caustic scrubber, identified as V-403, used to remove H₂S from P-400 and MS142 off gasses, prior to entering Vacuum Heater H-400 and Dehydration Heater H-401;
- (v) One (1) Lube Oil Distillation Unit and ancillary equipment; and
- (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, capable of processing off gas during start-up or shut-down of H-400, identified as H-500, with a nominal rating of 8.30 MMBtu/hr, used to heat the P-500 reactor feeds, and exhausting through stack H-500;
- (iii) One (1) natural gas process heater, identified as H-501, with a nominal rating of 8.70 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 H₂S from of the hydrogen rich recycle gas used in the reactors.
- (v) One (1) natural gas process heater, identified as H-502, with a nominal rating of 7.20 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) air dryer, identified as T-502, used to cool and dry the steam stripper bottoms product, exhausting through stack T-502;
	(viii) One (1) high pressure separator, identified as V-501;
	(ix) One (1) low pressure caustic flash drum, identified as V-503;
	(x) One (1) off gas knock out, identified as V-505; and
	(xi) One (1) caustic cooler heat exchanger, identified as E-503.
(b)	One (1) combined clean mineral spirits operation, identified as P-100, constructed in 1996, 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.
(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 shall not exceed 0.45 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} = \frac{1.09}{(30.975)^{0.26}} = 0.45 \text{ lb/MMBtu}$$

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]

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 NO_x emissions from Heater H-400 shall not exceed 5.24 pounds per hour.
- (i) The NO_x emissions from Heater H-401 shall not exceed 12.62 pounds per hour.
- (j) The NO_x 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 NO_x from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ and NO_x 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.

D.1.3 Sulfur Dioxide (SO₂) [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 (SO₂) emissions from Heaters H-400 and H-401 shall not exceed 0.5

pounds per million Btu heat input, each, when using distillate oil.

- (b) The sulfur dioxide (SO₂) emissions from Heaters H-400 and H-401 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 demonstrate compliance with Condition D.1.2(c), the scrubber identified as V-403 shall be operated at all times when the lube oil hydrotreater (HT) process (P-500), lube oil distillation process (P-400), and combined clean mineral spirits operation (P-100) are in operation and off-gas is being combusted in heaters H-400 and/or H-401.
- (b) In order to demonstrate compliance with Condition D.1.2(d), the scrubber identified as T-501 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 H-500.

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 NO_x 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.

D.1.7 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

- (a) In order to demonstrate compliance with the hourly SO₂ emission limitation in Conditions D.1.2(d), D.1.2(e), and D.1.2(f), 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:

$$SO_2 = \frac{S * F * MWC}{1,000,000}$$

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 the vacuum heater H-400 and/or 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.1.8 Visible Emissions Notations

- (a) Daily visible emission notations of the vacuum heater H-400, dehydration heater H-401, and process heater H-500 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.1.9 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.
 - (2) When for any one reading, the water 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.
 - (3) When for any one reading, the pH of the scrubber is outside the normal range of 10.5 to 12.5, or 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.
- (2) When for any one reading, the water flow rate of the scrubber is less than the normal minimum of 200 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.
- (3) When for any one reading, the pH of the scrubber is outside the normal range of 9.5 to 12.5, or 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 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 Conditions D.1.2(d), 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.

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.1.11 Record Keeping Requirements

- (a) To document compliance with Condition D.1.2(a), the Permittee shall maintain records of the number of hours that the Heater H-400 operates each month.

- (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) To document compliance with Conditions D.1.2(d), D.1.2(e), D.1.2(f), and D.1.3, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (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).
 - (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) To document compliance with Condition D.1.7(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) To document compliance with Condition D.1.7(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) To document compliance with Condition D.1.8, the Permittee shall maintain records of daily visible emission notations of the H-400, H-401, and H-500 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).
- (h) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.1.12 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).

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 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, with a maximum capacity of 16.33 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, 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.)

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]

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)
- (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 Fire Water Pump Engine 1 and Fire Water Pump Engine 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) and (e)
- (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 Fire Water Pump Engine 1 and Fire Water Pump Engine 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 A) 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

**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

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• 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: 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 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
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

<p>This report shall be submitted quarterly based on a calendar year. 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".</p>	
<p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	

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)

SUMMARY OF 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: January 18, 2012

Uncontrolled Emissions (Tons/Yr)																			
Pollutant	H-500, H-501, H-502 Natural Gas	SB-200 Natural Gas	SB-201 Natural Gas	Vacuum Heater H-400		Dehydration Heater H-401			Used Solvent Transfer Operations	Combined Clean Mineral Spirits	Mineral Spirits Drip Tray Evaporation	Lube Oil Transfer Operations	Tanks	Lube Oil Hydrotreating Unit	Cooling Towers	Fire Water Pump 1	Fire Water Pump 2	Roadways (Fugitive)	Total
				Nat. Gas	Off Gas	Nat. Gas	Vaporized Distillate	Off Gas											
PM	0.20	0.12	0.14	0.10	0.08	0.10	1.32	0.00	-	-	-	-	-	-	2.53	0.17	0.17	13.23	4.92
PM10	0.81	0.49	0.54	0.39	0.24	0.39	1.32	0.01	-	-	-	-	-	-	2.53	0.17	0.17	2.58	7.04
PM2.5	0.81	0.49	0.54	0.39	0.24	0.39	1.32	0.01	-	-	-	-	-	-	2.53	0.17	0.17	0.39	7.04
VOC	0.58	0.35	0.39	0.28	0.15	0.28	0.13	0.00	5.33	2.75	0.19	0.37	0.98	0.13	-	0.19	0.19	-	12.31
NOx	2.65	6.22	2.50	22.95		55.28			-	-	-	-	-	-	-	2.33	2.33	-	94.25
SO2	0.06	0.04	0.04	0.03	241.71	0.03	12.44	39.96	-	-	-	-	-	-	-	0.15	0.15	-	294.63
CO	8.90	5.39	6.01	4.30	2.28	4.30	3.30	0.07	-	-	-	-	-	-	-	0.50	0.50	-	35.57
CO2e	12,797	7,747	8,635	6,187	4,547	6,187	14,777	147	-	-	-	-	-	-	-	87	87	-	61,197
H ₂ S	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	0.02
Single HAP (Ethylene Glycol)	-	-	-	-	-	-	-	-	0.88	-	-	-	-	-	-	-	-	-	0.88
Combined HAPs	0.20	0.12	0.13	0.10	0.05	0.10	0.42	1.65E-03	2.40	-	-	0.37	0.98	-	-	2.03E-03	2.03E-03	-	4.88

Controlled Emissions (Tons/Yr)																			
Pollutant	H-500, H-501, H-502 Natural Gas	SB-200 Natural Gas	SB-201 Natural Gas	Vacuum Heater H-400		Dehydration Heater H-401			Used Solvent Transfer Operations	Combined Clean Mineral Spirits	Mineral Spirits Drip Tray Evaporation	Lube Oil Transfer Operations	Tanks	Lube Oil Hydrotreating Unit	Cooling Towers	Fire Water Pump 1	Fire Water Pump 2	Roadways (Fugitive)	Total
				Nat. Gas	Off Gas	Nat. Gas	Vaporized Distillate	Off Gas											
PM	0.20	0.12	0.14	0.10	0.08	0.10	1.32	0.00	-	-	-	-	-	-	2.53	0.17	0.17	13.23	4.92
PM10	0.81	0.49	0.54	0.39	0.24	0.39	1.32	0.01	-	-	-	-	-	-	2.53	0.17	0.17	2.58	7.04
PM2.5	0.81	0.49	0.54	0.39	0.24	0.39	1.32	0.01	-	-	-	-	-	-	2.53	0.17	0.17	0.39	7.04
VOC	0.58	0.35	0.39	0.27	0.15	0.28	0.13	0.00	5.33	2.75	0.19	0.37	0.98	0.13	-	0.19	0.19	-	12.29
NOx	2.65	6.22	2.50	22.95		55.28			-	-	-	-	-	-	-	2.33	2.33	-	94.25
SO2	0.06	0.04	0.04	0.03	30.08	0.03	12.44	39.96	-	-	-	-	-	-	-	0.15	0.15	-	82.99
CO	8.90	5.39	6.01	4.30	2.28	4.30	3.30	0.07	-	-	-	-	-	-	-	0.50	0.50	-	35.57
CO2e	12,797	7,747	8,635	6,187	4,547	6,187	14,777	147	-	-	-	-	-	-	-	87	87	-	61,197
H ₂ S	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	0.02
Single HAP (Ethylene Glycol)	-	-	-	-	-	-	-	-	0.88	-	-	-	-	-	-	-	-	-	0.88
Combined HAPs	0.20	0.12	0.13	0.10	0.05	0.10	0.42	1.65E-03	2.40	-	-	0.37	0.98	-	-	2.03E-03	2.03E-03	-	4.88

Limited Emissions (Tons/Yr)																			
Pollutant	H-500, H-501, H-502 Natural Gas	SB-200 Natural Gas	SB-201 Natural Gas	Vacuum Heater H-400		Dehydration Heater H-401			Used Solvent Transfer Operations	Combined Clean Mineral Spirits	Mineral Spirits Drip Tray Evaporation	Lube Oil Transfer Operations	Tanks	Lube Oil Hydrotreating Unit	Cooling Towers	Fire Water Pump 1	Fire Water Pump 2	Roadways (Fugitive)	Total
				Nat. Gas	Off Gas	Nat. Gas	Vaporized Distillate	Off Gas											
PM	0.20	0.12	0.14	0.09	0.08	0.09	1.27	0.00	-	-	-	-	-	-	2.53	0.17	0.17	13.23	4.85
PM10	0.81	0.49	0.54	0.37	0.23	0.37	1.27	0.01	-	-	-	-	-	-	2.53	0.17	0.17	2.58	6.94
PM2.5	0.81	0.49	0.54	0.37	0.23	0.37	1.27	0.01	-	-	-	-	-	-	2.53	0.17	0.17	0.39	6.94
VOC	0.58	0.35	0.39	0.27	0.14	0.27	0.13	0.00	5.33	2.75	0.19	0.37	0.98	0.13	-	0.19	0.19	-	12.27
NOx*	2.65	6.22	2.50	22.01		53.00			-	-	-	-	-	-	-	2.33	2.33	-	91.04
SO2**	0.06	0.04	0.04	29.40		50.27			-	-	-	-	-	-	-	0.15	0.15	-	80.13
CO	8.90	5.39	6.01	4.13	2.19	4.13	3.17	0.07	-	-	-	-	-	-	-	0.50	0.50	-	34.98
CO2e	12,797	7,747	8,635	5,933	4,360	5,933	14,170	141	-	-	-	-	-	-	-	87	87	-	59,888
H ₂ S	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	0.02
Single HAP (Ethylene Glycol)	-	-	-	-	-	-	-	-	0.88	-	-	-	-	-	-	-	-	-	0.88
Combined HAPs	0.20	0.12	0.13	0.09	0.05	0.09	0.27	1.59E-03	2.40	-	-	0.37	0.98	-	-	2.03E-03	2.03E-03	-	4.71

Note:
 Vacuum Heater H-400 and Dehydration Heater H-401 are limited to 8,400 hours of operation per year each.
 *Combined NOx emissions from the Vacuum Heater H-400 shall not exceed 5.24 pounds per hour.
 **Combined NOx emissions from the Dehydration Heater H-401 shall not exceed 12.62 pounds per hour.
 *Combined SO2 emissions from the Vacuum Heater H-400 shall not exceed 7.00 pounds per hour.
 **Combined SO2 emissions from the Dehydration Heater H-401 shall not exceed 11.97 pounds per hour.

**Appendix A: Emissions Calculations
Miscellaneous Natural Gas Combustion
Unlimited Emissions**

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31350-00670
Pit ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Emission Unit ID
8.30	72.7	HT Heater 1 (H-500)
8.70	76.2	HT Heater 2 (H-501)
7.20	63.1	HT Heater 3 (H-502)
24.2	212.0	

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx 25 **see below	VOC	CO 84
Potential Emission in tons/yr	0.20	0.81	0.81	0.06	2.65	0.58	8.90

*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

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	2.226E-04	1.272E-04	7.950E-03	1.908E-01	3.604E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	5.300E-05	1.166E-04	1.484E-04	4.028E-05	2.226E-04

Combined HAPs: 0.20

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

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	12,720	0.2	0.2
Summed Potential Emissions in tons/yr	12,720		
CO2e Total in tons/yr	12,797		

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 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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Heat Input Capacity	Potential Throughput	Emission Unit
MMBtu/hr	MMCF/yr	ID
14.65	128.3	Steam Boiler 1 (SB-200)
14.65	128.3	

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	97	5.5	84
					**see below		
Potential Emission in tons/yr	0.12	0.49	0.49	0.04	6.22	0.35	5.39

*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(s) data of 80 ppm Nox at 3% O2 [0.0971 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
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.348E-04	7.700E-05	4.813E-03	1.155E-01	2.182E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.208E-05	7.058E-05	8.983E-05	2.438E-05	1.348E-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

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	7,700	0.1	0.1
Summed Potential Emissions in tons/yr	7,700		
CO2e Total in tons/yr	7,747		

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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Heat Input Capacity MMBtu/hr 16.33 16.33	Potential Throughput MMCF/yr 143.1 143.1	Emission Unit ID Steam Boiler 2 (SB-201)
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Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	35 **see below	5.5	84
Potential Emission in tons/yr	0.14	0.54	0.54	0.04	2.50	0.39	6.01

*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
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutant Emissions

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.502E-04	8.583E-05	5.364E-03	1.287E-01	2.432E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.576E-05	7.868E-05	1.001E-04	2.718E-05	1.502E-04

Combined HAPs: 0.13

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

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	8,583	0.2	0.2
Summed Potential Emissions in tons/yr	8,583		
CO2e Total in tons/yr	8,635		

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
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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Limited Throughput MMCF/yr	Emission Unit ID
11.70	102.5	98.3	Vacuum Heater (H-400)

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	**see below	5.5	84
Potential Emissions in tons/yr	0.10	0.39	0.39	0.03		0.28	4.30
Limited Potential Emissions in tons/yr	0.09	0.37	0.37	0.03		0.27	4.13

*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 estimates combined NOx for Vacuum Heater H-400 to be 5.24 pounds per hour. Emissions will be verified by stack test.
 *** Source has limited operation of Vacuum Heater H-400 to 8400 hours per year.

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

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.076E-04	6.150E-05	3.843E-03	9.224E-02	1.742E-04
Limited Potential Emissions in tons/yr	1.032E-04	5.897E-05	3.686E-03	8.845E-02	1.671E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	2.562E-05	5.637E-05	7.174E-05	1.947E-05	1.076E-04
Limited Potential Emissions in tons/yr	2.457E-05	5.405E-05	6.880E-05	1.867E-05	1.032E-04

Unlimited Combined HAPs: 0.10
 Limited Combined HAPs: 0.09

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

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Unlimited Potential Emission in ton	6,150	0.12	0.11
	5,897	0.11	0.11
Unlimited Summed Potential Emissions in tons/yr	6,150		
Limited Summed Potential Emissions in tons/yr	5,897		
Unlimited CO2e Total in tons/yr	6,187		
Limited CO2e Total in tons/yr	5,933		

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
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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

5431000
40626698.69
406.2669869

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Limited Throughput MMCF/yr	Emission Unit ID
6.20	54.31	52.08	Vacuum Heater (H-400)
6.20	54.31	52.08	

Potential Emissions (PM,NOx,VOC,CO) from Combined Off Gas Combustion

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	PM2.5*	NOx	VOC	CO
	3.0	8.7	8.7	**see below	5.5	84
Potential Emission in tons/yr	0.08	0.24	0.24		0.15	2.28
Limited Potential Emission in tons/yr	0.08	0.23	0.23		0.14	2.19

Note:

PM, PM10, PM2.5, and NOx emission factors from WebFIRE for SCC 10200701 (Petroleum Refinery Gas)
VOC and CO emission factors from AP-42 Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3 since they are higher than the WebFIRE emission factors.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
**Source estimates combined NOx for Vacuum Heater H-400 to be 5.24 pounds per hour. Emissions will be verified by stack test.
*** Source has limited operation of Vacuum Heater H-400 to 8400 hours per year.

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

Potential Emissions (SO2) from Combined Off Gas Combustion

Fuel Stream	Sulfur (ppmw)	Flow Rate (lb/hr)	Scrubber Control Efficiency	Uncontrolled PTE (lb/hr)	Uncontrolled PTE (tons/yr)	Controlled PTE (lb/hr)	Controlled PTE (tons/yr)
Distillation Offgas	5700.0	221.25	95%	50.40	220.7	2.52	11.0
HT Offgas	9400.0	230	0%	4.32	18.9	4.32	18.9
142 MS Offgas	0.2	4.30	95%	0.00	0.00	0.00	0.0
HT Purge Gas	470.4	500	0%	0.47	2.1	0.47	0.1
Total:					241.71		30.08

Note:

Maximum sulfur concentrations and flow rates were provided by the source and are based on engineering estimates from process simulation.
HT Purge Gas Emissions conservatively based on 500 hours of purge time per year

Methodology:

Controlled PTE (lb/hr) = Sulfur (ppmw) / 1,000,000 * Flow Rate (lb/hr) * Molecular Weight Conversion from S₂ to SO₂ (64.07 / 32.066)
Controlled PTE (tons/yr) = Controlled PTE (lb/hr) * 8,760 hours * (1 ton / 2,000 lbs)
Uncontrolled PTE (tons/yr) = Controlled PTE (lb/hr) / (1 - Scrubber Control Efficiency) * 8,760 hrs * (1 ton / 2,000 lbs)
Uncontrolled PTE (lb/hr) = Uncontrolled PTE (tons/yr) / 8,760 hrs * 2,000 lbs

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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Potential HAP Emissions from Combined Off Gas Combustion

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.703E-05	3.259E-05	2.037E-03	4.888E-02	9.233E-05
Limited Potential Emissions in tons/yr	5.468E-05	3.125E-05	1.953E-03	4.687E-02	8.854E-05

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.358E-05	2.987E-05	3.802E-05	1.032E-05	5.703E-05
Limited Potential Emissions in tons/yr	1.302E-05	2.864E-05	3.646E-05	9.895E-06	5.468E-05

Unlimited Combined HAPs: 0.05
 Limited Combined HAPs: 0.05

Methodology is the same as page 10

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2 22,300	CH4 0.216	N2O 0.26
Unlimited Potential Emission in tons/yr	4,530	0.04	0.05
Limited Potential Emission in tons/yr	4,344	0.04	0.05
Unlimited Summed Potential Emissions in tons/yr	4,530		
Limited Summed Potential Emissions in tons/yr	4,344		
Unlimited CO2e Total in tons/yr	4,547		
Limited CO2e Total in tons/yr	4,360		

Note:
 No CO2e emission factors exist for the specific process off gas combusted in vacuum heater H-400. As a worst case scenario the emission factors for #2 fuel oil were used.
 Assumed 1 cu. ft. = 7.480519 gal.

Methodology
 The CO2 Emission Factor for #2 Fuel Oil is 22300.
 Emission Factors are from AP 42, Tables 1.3-3, 1.3-8, and 1.3-12 (SCC 1-03-005-01/02/03) Supplement E 9/99 (see erata file)
 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
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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Limited Throughput MMCF/yr	Emission Unit ID
11.70	102.5	98.3	Vacuum Heater (H-401)

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	**see below	5.5	84
Potential Emissions in tons/yr	0.10	0.39	0.39	0.03		0.28	4.30
Limited Potential Emissions in tons/yr	0.09	0.37	0.37	0.03		0.27	4.13

*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 estimates combined NOx for Vacuum Heater H-401 to be 6.6 pounds per hour. Emissions will be verified by stack test.
 *** Source has limited operation of Vacuum Heater H-401 to 8400 hours per year.

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

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.076E-04	6.150E-05	3.843E-03	9.224E-02	1.742E-04
Limited Potential Emissions in tons/yr	1.032E-04	5.897E-05	3.686E-03	8.845E-02	1.671E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	2.562E-05	5.637E-05	7.174E-05	1.947E-05	1.076E-04
Limited Potential Emissions in tons/yr	2.457E-05	5.405E-05	6.880E-05	1.867E-05	1.032E-04

Unlimited Combined HAPs: 0.10
 Limited Combined HAPs: 0.09

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

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Unlimited Potential Emission in ton	6,150	0.12	0.11
	5,897	0.11	0.11
Unlimited Summed Potential Emissions in tons/yr	6,150		
Limited Summed Potential Emissions in tons/yr	5,897		
Unlimited CO2e Total in tons/yr	6,187		
Limited CO2e Total in tons/yr	5,933		

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
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: January 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	Limited Throughput kgals/yr	Emission Unit ID
21.1	1320.26	1266	Vacuum Heater (H-401)
21.1	1320.26	1266	

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10	PM2.5	SO2	NOx	VOC	CO
	2.0	2.0	2.0	18.84	*see below	0.20	5.0
Potential Emissions in tons/yr	1.32	1.32	1.32	12.44		0.13	3.30
Limited Potential Emissions in tons/yr	1.27	1.27	1.27	11.93		0.13	3.17

Notes:

Source has limited operation of Dehydration Heater H-401 to 8400 hours per year.
*Source estimates combined NOx for Dehydration Heater H-401 to be 6.6 pounds per hour. Emissions will be verified by stack test.

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

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.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Greenhouse Gas Emissions

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	22,300	0.216	0.26
Unlimited Potential Emissions in tons	14,721	0.14	0.17
Limited Potential Emissions in tons/yr	14,116	0.14	0.16
Unlimited Summed Potential Emissions in tons/yr	14,721		
Limited Summed Potential Emissions in tons/yr	14,116		
Unlimited CO2e Total in tons/yr	14,777		
Limited CO2e Total in tons/yr	14,170		

Methodology

The CO2 Emission Factor for #1 Fuel Oil is 21500. The CO2 Emission Factor for #2 Fuel Oil is 22300.

Emission Factors are from AP 42, Tables 1.3-3, 1.3-8, and 1.3-12 (SCC 1-03-005-01/02/03) Supplement E 9/99 (see erata file)

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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
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: January 18, 2012

HAPs							
Emission Factor in lb/kgal	Benzene	Ethylbenzene	Formaldehyde	Napthalene	1,1,1 - Trichloroethane	Toluene	0-Xylene
	2.14E-04	6.36E-05	3.30E-02	1.13E-03	2.36E-04	6.20E-03	1.09E-04
Potential Emission in tons/yr	1.41E-04	4.20E-05	2.18E-02	7.46E-04	1.56E-04	4.09E-03	7.20E-05
Limited Potential Emissions in tons/yr	8.94E-05	2.66E-05	1.38E-02	4.72E-04	9.86E-05	2.59E-03	4.55E-05

HAPs (continued)							
Emission Factor in lb/kgal	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(b,k)fluoracene	Benzo(g,h,i)perylene	Chrysene
	2.11E-05	2.53E-07		4.01E-06	1.48E-06	2.26E-06	2.38E-06
Potential Emission in tons/yr	1.39E-05	1.67E-07	0.00E+00	2.65E-06	9.77E-07	1.49E-06	1.57E-06
Limited Potential Emissions in tons/yr	8.82E-06	1.06E-07	0.00E+00	1.68E-06	6.18E-07	9.44E-07	9.95E-07

HAPs (continued)							
Emission Factor in lb/kgal	Dibobenzo(a,h)anthracene	Fluoranthene		Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
	1.67E-06	4.84E-06		4.47E-06	2.14E-06	1.05E-05	4.25E-06
Potential Emission in tons/yr	1.10E-06	3.20E-06	0.00E+00	2.95E-06	1.41E-06	6.93E-06	2.81E-06
Limited Potential Emissions in tons/yr	6.98E-07	2.02E-06	0.00E+00	1.87E-06	8.94E-07	4.39E-06	1.78E-06

HAPs (continued)							
Emission Factor in lb/kgal	OCDD	Antimony		Arsenic	Barium	Beryllium	Cadmium
	3.10E-09	5.25E-03		1.32E-03	2.57E-03	2.78E-05	3.98E-04
Potential Emission in tons/yr	2.05E-09	3.47E-03	0.00E+00	8.71E-04	1.70E-03	1.84E-05	2.63E-04
Limited Potential Emissions in tons/yr	1.30E-09	2.19E-03	0.00E+00	5.52E-04	1.07E-03	1.16E-05	1.66E-04

HAPs (continued)							
Emission Factor in lb/kgal	Chloride	Chromium		Chromium VI	Cobalt	Copper	Fluoride
	3.47E-01	8.45E-04		2.48E-04	6.02E-03	1.76E-03	3.73E-02
Potential Emission in tons/yr	2.29E-01	5.58E-04	0.00E+00	1.64E-04	3.97E-03	1.16E-03	2.46E-02
Limited Potential Emissions in tons/yr	1.45E-01	3.53E-04	0.00E+00	1.04E-04	2.52E-03	7.35E-04	1.56E-02

HAPs (continued)							
Emission Factor in lb/kgal	Lead	Manganese		Mercury	Molubdenum	Nickel	Phosphorous
	1.51E-03	3.00E-03		1.13E-04	7.87E-04	8.45E-02	9.46E-03
Potential Emission in tons/yr	9.97E-04	1.98E-03	0.00E+00	7.46E-05	5.20E-04	5.58E-02	6.24E-03
Limited Potential Emissions in tons/yr	6.31E-04	1.25E-03	0.00E+00	4.72E-05	3.29E-04	3.53E-02	3.95E-03

HAPs (continued)						
Emission Factor in lb/kgal	Selenium	Vanadium		Zinc	Formaldehyde	Anthracene
	6.83E-04	3.18E-02		2.91E-02	3.30E-02	1.22E-06
Potential Emission in tons/yr	4.51E-04	2.10E-02	0.00E+00	1.92E-02	2.18E-02	8.05E-07
Limited Potential Emissions in tons/yr	2.85E-04	1.33E-02	0.00E+00	1.22E-02	1.38E-02	5.10E-07

Note:
Methodology is the same as page 13.
Emission Factors are from AP 42, Tables 1.3-9 and 1.3-11.

Appendix A: Emissions Calculations
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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Limited Throughput MMCF/yr	Emission Unit ID
0.20	1.75	1.68	Vacuum Heater (H-401)
0.20	1.75	1.68	

Potential Emissions (PM,NOx,VOC,CO) from Combined Off Gas Combustion

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	PM2.5*	NOx	VOC	CO
	3.0	8.7	8.7	**see below	5.5	84
Potential Emission in tons/yr	0.00	0.01	0.01		0.00	0.07
Limited Potential Emissions in tons/yr	0.00	0.01	0.01		0.00	0.07

Note:
 PM, PM10, PM2.5, and NOx emission factors from WebFIRE for SCC 10200701 (Petroleum Refinery Gas)
 VOC and CO emission factors from AP-42 Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3 since they are higher than the WebFIRE emission factors.
 *PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined.
 **Source estimates combined NOx for Dehydration Heater H-401 to be 6.6 pounds per hour. Emissions will be verified by stack test.
 *** Source has limited operation of Dehydration Heater H-401 to 8400 hours per year.

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

Potential Emissions (SO2) from Combined Off Gas Combustion

Fuel Stream	Sulfur (ppmw)	Flow Rate (lb/hr)	Scrubber Control Efficiency	Uncontrolled PTE (lb/hr)	Uncontrolled PTE (tons/yr)	Controlled PTE (lb/hr)	Controlled PTE (tons/yr)
Dehy Water	50.0	7,121	0%	0.71	3.1	0.71	3.1
Dehy Offgas	0.2	14	0%	0.00	0.0	0.00	0.0
Distillation Sour Water	1229.0	1900	0%	4.67	20.4	4.67	20.4
HT Sour Water	1500.0	1250.00	0%	3.75	16.4	3.75	16.4
Total:					39.96		39.96

Note:
 Maximum sulfur concentrations and flow rates were provided by the source and are based on engineering estimates from process simulation.
 HT Purge Gas Emissions conservatively based on 500 hours of purge time per year

Methodology:
 Controlled PTE (lb/hr) = Sulfur (ppmw) / 1,000,000 * Flow Rate (lb/hr) * Molecular Weight Conversion from S₂ to SO₂ (64.07 / 32.066)
 Controlled PTE (tons/yr) = Controlled PTE (lb/hr) * 8,760 hours * (1 ton / 2,000 lbs)
 Uncontrolled PTE (tons/yr) = Controlled PTE (lb/hr) / (1 - Scrubber Control Efficiency) * 8,760 hrs * (1 ton / 2,000 lbs)
 Uncontrolled PTE (lb/hr) = Uncontrolled PTE (tons/yr) / 8,760 hrs * 2,000 lbs

Appendix A: Emissions Calculations
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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 18, 2012

Potential Emissions (HAPs) from Combined Off Gas Combustion

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.840E-06	1.051E-06	6.570E-05	1.577E-03	2.978E-06
Limited Potential Emissions in tons/yr	1.764E-06	1.008E-06	6.300E-05	1.512E-03	2.856E-06

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.380E-07	9.636E-07	1.226E-06	3.329E-07	1.840E-06
Limited Potential Emissions in tons/yr	4.200E-07	9.240E-07	1.176E-06	3.192E-07	1.764E-06

Unlimited Combined HAPs: 1.65E-03
 Limited Combined HAPs: 1.59E-03

Methodology is the same as page 15

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2 22,300	CH4 0.216	N2O 0.26
Unlimited Potential Emission in tons/yr	146	0.00	0.00
Limited Potential Emission in tons/yr	140	0.00	0.00
Unlimited Summed Potential Emissions in tons/yr	146		
Limited Summed Potential Emissions in tons/yr	140		
Unlimited CO2e Total in tons/yr	147		
Limited CO2e Total in tons/yr	141		

Note:

No CO2e emission factors exist for the specific process off gas combusted in dehydration heater H-401. As a worst case scenario the emission factors for #2 fuel oil were used. Assumed 1 cu. ft. = 7.480519 gal.

Methodology

The CO2 Emission Factor for #2 Fuel Oil is 22300.
 Emission Factors are from AP 42, Tables 1.3-3, 1.3-8, and 1.3-12 (SCC 1-03-005-01/02/03) Supplement E 9/99 (see erata file)
 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: 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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.17	0.17	0.17	0.15	2.33	0.19	0.50

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.17	0.17	0.17	0.15	2.33	0.19	0.50

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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 = (°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: January 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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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 = (°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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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:

$$\text{Emission Factor (lb/hr)} = M * K * A * P * 3,600 / (R * T)$$

Where:

M = (lb/lb-mole) P = (psia)
 K = (ft/sec) R = (psia-ft³/°R-lb-mole)
 A = (ft²) T = (°R)

per U.S. EPA EIIIP, 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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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	7,320,000	6.80E-06	6.52E-06	48.75	0.02
HT Fuel Transfer Operations	3,640,000	1.36E-04	1.30E-04	484.12	0.24
HT Finished Lube/VLO Transfer Operations	31,400,000	6.80E-06	6.52E-06	209.12	0.10
Spent Caustic Transfer Operations	71,000	6.45E-06	6.18E-06	0.45	0.00
Potential Emissions:				742.44	0.37

Note:

Assume VOC = HAPs

$$\text{Emission Factor (lb/gal)} = 12.46 * S * P * M / T / 1000$$

Where:

S = Saturation Factor

P = (psia)

M = (lb/lb-mol)

T = (°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 46221
Permit Number: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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	2.43	1.22E-03
Tank 3	Reuse	Vertical	34.50	17.25	10.00	100	1.00E-03	20,000	3,000,000	150.00	2.31	1.16E-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	HT Fuel	Vertical	30.00	15.00	20.00	130	2.00E-02	71,000	3,620,000	50.99	200.91	1.00E-01
Tank 8	HT Lube	Vertical	48.00	24.00	60.00	250	1.00E-03	1,000,000	15,642,000	15.64	135.23	6.76E-02
Tank 9	HT Lube	Vertical	48.00	24.00	60.00	250	1.00E-03	1,000,000	15,642,000	15.64	135.23	6.76E-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	2.5	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	2.5	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	7.98	3.99E-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	3,400,000	178.95	3.06	1.53E-03
Tank 17	Mineral Spirits	Vertical	17.00	8.50	10.00	100	1.00E-03	10,000	2,000,000	200.00	1.69	8.45E-04
Tank 18	Asphalt	Vertical	35.00	17.50	12.00	300	1.00E-03	30,000	3,620,000	120.67	12.25	6.13E-03
Tank 19	Asphalt	Vertical	35.00	17.50	12.00	300	1.00E-03	30,000	3,620,000	120.67	12.25	6.13E-03
Tank 20	Asphalt	Vertical	32.00	16.00	20.00	300	1.00E-03	75,000	7,240,000	96.53	28.56	1.43E-02
Tank 21	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	12,500,000	416.67	28.3	1.42E-02
Tank 22	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	12,500,000	416.67	28.3	1.42E-02
Tank 23	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	12,500,000	416.67	28.3	1.42E-02
Tank 24	Used Oil	Vertical	35.00	17.50	12.00	100	3.72E-03	30,000	12,500,000	416.67	28.3	1.42E-02
Tank 25	HT Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	1,810,000	60.33	87.28	4.36E-02
Tank 26	HT Fuel	Vertical	35.00	17.50	12.00	130	2.00E-02	30,000	1,810,000	60.33	87.28	4.36E-02
Tank 27	Light Fuel	Vertical	35.00	17.50	12.00	130	1.00E-02	30,000	1,300,000	43.33	41.08	2.05E-02
Tank 28	VLO	Vertical	35.00	17.50	12.00	130	1.00E-03	30,000	300,000	10.00	1.59	7.95E-04
Tank 29	HT Lube	Vertical	35.00	17.50	12.00	250	1.00E-03	30,000	15,642,000	521.40	22.14	1.11E-02
Tank 30	HT Lube	Vertical	35.00	17.50	12.00	250	1.00E-03	30,000	15,642,000	521.40	22.14	1.11E-02
Tank 31	Sour Water	Vertical	35.00	17.50	12.00	18	1.00E-02	30,000	3,000,000	100.00	6.91	3.46E-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	707,000	23.57	3.94	1.97E-03
Tank 34	HT Lube	Vertical	43.00	21.50	80.00	250	1.00E-03	1,600,000	31,284,000	19.55	253.77	1.27E-01
Tank 35	Used Oil	Vertical	40.00	20.00	93.00	100	3.72E-03	1,800,000	50,000,000	27.78	569.45	2.85E-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	Used Oil	Vertical	48.00	24.00	60.00	100	3.72E-03	1,000,000	1,000,000	1.00	71.31	3.57E-02
Tank 38	Used Oil	Vertical	48.00	24.00	60.00	100	3.72E-03	1,000,000	1,000,000	1.00	71.31	3.57E-02
Tank 39	Non-Haz Waste 142	Vertical	48.00	24.00	50.00	100	1.00E-03	700,000	6,000,000	8.57	25.99	1.30E-02
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:											1961.90	0.98

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: 097-31350-00670
Plt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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
H₂S Emissions**

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-28484-00670
Pit ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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.

H₂S is emitted to the atmosphere through the HIC relief valve during power failures. Hours of Operation Conservatively assumes 100 hours of power loss per year.

Methodology:

Emission Factor (lb/hr) = H₂S 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: 097-31350-00670
Pit ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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 Calculation
Paved Roads**

Company Name: Heritage-Crystal Clean, LLC
Address City IN Zip: 3970 West 10th Street, Indianapolis, IN 46222
Permit Number: 097-31350-00670
Pt ID: 097-00670
Reviewer: Jason R. Krawczyk
Date: January 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).

Maximum Material Handling Throughput 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	30741.4	1214285	1530	0.290	8908
Total					30741	1214285			8908

Average Vehicle Weight Per Trip = tons/trip
 Average Miles Per Trip = 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 ³ = 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 = days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 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	14.47	2.82	0.42	13.23	2.58	0.39
Totals		14.47	2.82	0.42	13.23	2.58	0.39

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/mi]
 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 lb)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lb)

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.

Mitchell E. Daniels Jr.
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Thomas W. Easterly
Commissioner

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SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Bob Weldzius
Heritage-Crystal Clean, LLC
3970 W 10th St
Indianapolis, IN 46222-3269

DATE: January 25, 2012

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

SUBJECT: Final Decision
FESOP
097-31350-00670

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:

«Resp_Off_if_applicable»
«Consultant_if_applicable»
«Other_persons»

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

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