NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding the Renewal of a Federally Enforceable State Operating Permit (FESOP) for AOC, LLC in Porter County

FESOP Renewal No.: F127-39976-00003

The Indiana Department of Environmental Management (IDEM) has received an application from AOC, LLC located at 2552 Industrial Drive, Valparaiso, Indiana 46383 for a renewal of its FESOP issued on February 12, 2009. If approved by IDEM’s Office of Air Quality (OAQ), this proposed renewal would allow AOC, LLC to continue to operate its existing source.

This draft permit does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g., changes that add or modify synthetic minor emission limits). This notice fulfills the public notice procedures to which those conditions are subject. IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow for these changes.

A copy of the permit application and IDEM’s preliminary findings are available at:

Valparaiso Public Library
103 Jefferson Street
Valparaiso, IN 46383

and

IDEM Northwest Regional Office
330 W. US Highway 30, Suites E & F
Valparaiso, IN 46385

A copy of the preliminary findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

A copy of the preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC.) Please go to http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

How can you participate in this process?

The date that this notice is posted on IDEM’s website (https://www.in.gov/idem/5474.htm) marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the air pollution impact of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will
make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM’s mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number F127-39976-00003 in all correspondence.

Comments should be sent to:

Mena Mekhail  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Mena Mekhail or (317) 234-7434  
Or dial directly: (317) 234-7434  
Fax: (317) 232-6749 attn: Mena Mekhail  
E-mail: mmekhail@idem.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, at the IDEM Regional Office indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Mena Mekhail of my staff at the above address.

Heath Hartley, Section Chief  
Permits Branch  
Office of Air Quality
(herein known as the Permittee) is hereby authorized to 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.

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.
TABLE OF CONTENTS

SECTION A  SOURCE SUMMARY ......................................................................................................... 7
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  Specifically regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]
A.4  Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]
A.5  FESOP Applicability [326 IAC 2-8-2]

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

SECTION C  SOURCE OPERATION CONDITIONS ............................................................................. 22
Emission Limitations and Standards [326 IAC 2-8-4(1)] .................................................................... 22
C.1  Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]
C.2  Overall Source Limit [326 IAC 2-8]
C.3  Opacity [326 IAC 5-1]
C.4  Open Burning [326 IAC 4-1][IC 13-17-9]
C.5  Incineration [326 IAC 4-2][326 IAC 9-1-2]
C.6  Fugitive Dust Emissions [326 IAC 6-4]
C.7  Stack Height [326 IAC 1-7]
C.8  Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]
Testing Requirements [326 IAC 2-8-4(3)] .................................................................................... 24
C.9  Performance Testing [326 IAC 3-6]
Compliance Requirements [326 IAC 2-1.1-11] ............................................................................... 25
C.10  Compliance Requirements [326 IAC 2-1.1-11]
Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)] .......... 25
C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]
C.12 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)] .......... 26
C.13 Risk Management Plan [326 IAC 2-8-4][40 CFR 68]
C.14 Response to Excursions or Exceedances [326 IAC 2-8-4][326 IAC 2-8-5]
C.15 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)] ......................... 27
C.16 Emission Statement [326 IAC 2-6]
C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]
C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)][326 IAC 2-1.1-11]

Stratospheric Ozone Protection ....................................................................................... 28
C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS ........................................ 29

Emission Limitations and Standards [326 IAC 2-8-4(1)] ............................................. 29
D.1.1 Fuel Usage Limit [326 IAC 2-8][326 IAC 2-2]
D.1.2 Particulate Emission Limitations [326 IAC 6-2-2][326 IAC 6-2-4]
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 [326 IAC 2-8-4(1)] .................................. 30
D.1.5 Sulfur Dioxide Emissions and Sulfur Content

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-16] .......... 31
D.1.6 Record Keeping Requirements
D.1.7 Reporting Requirements

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS ........................................ 32

Emission Limitations and Standards [326 IAC 2-8-4(1)] ............................................. 32
D.2.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 2-3][326 IAC 2-8]
D.2.2 Best Available Control Technology (BACT) - VOC [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]
D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements [326 IAC 2-8-4(1)] .................................. 33
D.2.4 Volatile Organic Compounds (VOC) Control
D.2.5 Testing Requirements [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)] .......... 33
D.2.6 Thermal Oxidizer Temperature Monitoring
D.2.7 Thermal Oxidizer/RTO Duct Pressure or Fan Amperage

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] .............................. 34
D.2.8 Record Keeping Requirements
D.2.9 Reporting Requirements

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS ........................................ 33

Emission Limitations and Standards [326 IAC 2-8-4(1)] ............................................. 35
D.3.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]
D.3.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements [326 IAC 2-8-4(1)] .................................. 36
D.3.3 Volatile Organic Compounds (VOC) Control
Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)] ......................... 36
D.3.4 Compliance Monitoring

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] ............................................ 36
D.3.5 Record Keeping Requirements
D.3.6 Reporting Requirements

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS .................................................... 37

Emission Limitations and Standards [326 IAC 2-8-4(1)] ............................................................... 37
D.4.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]
D.4.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements [326 IAC 2-8-4(1)] ......................................................... 38
D.4.3 Volatile Organic Compounds (VOC) Control

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)] ..................... 38
D.4.4 Compliance Monitoring

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] ............................................ 38
D.4.5 Record Keeping Requirements [326 IAC 8-9]
D.4.6 Reporting Requirements

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS .................................................... 40

Emission Limitations and Standards [326 IAC 2-8-4(1)] ............................................................... 41
D.5.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]
D.5.2 Particulate Emission Limitations [326 IAC 6-3-2]
D.5.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements[326 IAC 2-8-4(1)] ......................................................... 42
D.5.4 Particulate
D.5.5 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)] ..................... 42
D.5.6 Activated Carbon

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] ............................................ 42
D.5.7 Record Keeping Requirements
D.5.8 Reporting Requirements

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS .................................................... 44

Reporting and Record Keeping Requirements [326 IAC 2-8-4(3)] ............................................ 44
D.6.1 Record Keeping Requirements [326 IAC 8-9]

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS .................................................... 45

Emission Limitations and Standards [326 IAC 2-8-4(1)] ............................................................... 45
D.7.1 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]
D.7.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]
D.7.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] ................................................... 46
D.7.4 Record Keeping Requirements

SECTION E.1 NSPS ................................................. 47

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)] ......................... 47
**E.1.2 Small Industrial - Commercial - Institutional Steam Generating Unit NSPS** [326 IAC 12][40 CFR Part 60, Subpart Dc]

**SECTION E.2 NSPS**

- New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

**SECTION E.3 NESHAP**

- National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]
  - Industrial, Commercial, and Institutional Boilers Area Sources NESHAP [40 CFR Part 63, Subpart JJJJJJ]
  - Emission Limitations and Standards [326 IAC 2-8-4(1)]
  - Preventive Maintenance Plan [326 IAC 2-8-4(9)]

**SECTION E.4 NESHAP**

- National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]
  - Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]
  - Emission Limitations and Standards [326 IAC 2-8-4(1)]
  - Preventive Maintenance Plan [326 IAC 2-8-4(9)]

**CERTIFICATION**

**EMERGENCY OCCURRENCE REPORT**

**FESOP Quarterly Report**

**QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

**Attachment A:** New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 60, Subpart Dc]

**Attachment B:** New Source Performance Standards for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 [40 CFR 60, Subpart Kb]
Attachment C: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR 63, Subpart JJJJJJ]

Attachment D: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, 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 polyester and acrylic resin source.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Address</td>
<td>2552 Industrial Drive, Valparaiso, Indiana 46383</td>
</tr>
<tr>
<td>General Source Phone Number</td>
<td>(219) 465-4353</td>
</tr>
<tr>
<td>SIC Code</td>
<td>2821(Plastics Materials, Synthetic Resins, and Nonvulcanized Elastomers)</td>
</tr>
<tr>
<td>County Location</td>
<td>Porter</td>
</tr>
<tr>
<td>Source Location Status</td>
<td>Nonattainment for 8-hour ozone standard</td>
</tr>
<tr>
<td>Source Status</td>
<td>Federally Enforceable State Operating Permit Program</td>
</tr>
<tr>
<td></td>
<td>Minor Source, under PSD and Emission Offset Rules</td>
</tr>
<tr>
<td></td>
<td>Minor Source, Section 112 of the Clean Air Act</td>
</tr>
<tr>
<td></td>
<td>1 of 28 Source Categories</td>
</tr>
</tbody>
</table>

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) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1977, with a rated heat capacity of 25 million British thermal units per hour (MMBtu/hour);

[Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]

(b) One (1) hot oil heater burning natural gas and using #2 fuel oil as a back-up fuel, constructed in 1973, with a rated heat capacity of 18 MMBtu per hour;

(c) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1990, with a rated heat capacity of 12.5 MMBtu per hour.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected facility.]
[Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]

(d) Two (2) reactors, identified as reactor No. 1 and No. 2, constructed in 1973 and 1985, respectively, with a maximum capacity of 8,000 and 9,000 gallons, respectively, using the following for VOC control;

1. One (1) natural gas-fired thermal oxidizer, using No. 2 fuel oil-fired as a back-up fuel, constructed in 1977 with a rated heat capacity of 8 MMBtu per hour, and used to control the two (2) reactors, exhausting to a stack.

(e) One (1) process styrene emission control system consisting of two (2) activated carbon units in series with continuous styrene emission monitoring, controlling items (f), (g), (h), and (i), and constructed in 1998;

(f) Two (2) thinning tanks, identified as thinning tank No. 1 and No. 2, constructed in 1973
and 1985, respectively, both storing polyester resin, with a maximum capacity of 16,100 and 17,700 gallons, respectively, and both with VOC emissions controlled by the process styrene emission control system described in (e);

(g) Seven (7) mix tanks, identified as mix tank No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 7 constructed in 1973, 1973, 1979, 1996, 1999, 1999, and permitted in 2016, respectively, all storing polyester resin, with a maximum capacity of 6,000, 15,000, 15,000, 800, 6,000, 6,000, and 6,000 gallons, respectively, controlled by the process styrene emission control system described in (e);

(h) One (1) styrene flush tank used to hold and capture styrene and used to flush pipes and process vessels between product runs, venting to the process styrene emission control system described in (e);

(i) One (1) drum off station and vent, constructed in 1985, which transfers finished products to drums and totes for shipment, with a maximum throughput of 6,015 tons per year, and with VOC emissions controlled by the process styrene emission control system described in (e);

(j) Two storage tanks styrene emission control systems consisting of one (1) activated carbon unit each. The storage tanks listed below vent through one of the systems: storage tanks No. 2, 3, 6, 8, and 9 vent through the east styrene emission control system; and storage tanks No. 12, 13, 14, 19, 20, 21, and 23 vent through the west styrene emission control system.

(1) One (1) tank storing resin, identified as storage tank 2, constructed in 1973, with a maximum capacity of 16,000 gallons;

(2) Two (2) tanks storing resin, identified as storage tank 3 and 6, both constructed in 1973, each with a maximum capacity of 30,000 gallons;

(3) Two (2) tanks storing resin, identified as storage tanks 8 and 9, both constructed in 1975, each with a maximum capacity of 105,000 gallons;

(4) Three (3) tanks storing resin, identified as storage tanks 12, 13, and 14, constructed in 1979, 1981 and 1981, respective, each with a maximum capacity of 50,000 gallons;

(5) One (1) tank storing styrene, identified as tank 19, constructed in 1995, with a maximum capacity of 69,000 gallons;

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(6) Two (2) storage tanks for resin, identified as storage tanks 20 and 21, both constructed in 1997, each with a maximum capacity of 30,000 gallons; and

[Under 40 CFR 60, Subpart Kb, these units are considered affected facilities.]

(7) One (1) resin storage tank, identified as storage tank 23, permitted in 2017, with a maximum capacity of 32,500 gallons.

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(k) One (1) pneumatic conveying system (IPA unloading), constructed in 1991, with a maximum throughput of 10,000,000 pounds per year, and with particulate emissions controlled by a bag filter (isophthalic unloading system);
(l) One (1) bulk isophthalic acid handling system, constructed in 1983, with a maximum throughput of 10,000,000 pounds per year;

(m) Thirteen (13) unloading/loading stations with fugitive VOC and HAP emissions:

1. One (1) unloading/loading station, identified as Backpad, constructed in 1990, and relocated/modified in 1999, with a maximum throughput of 2,000,000 pounds of glycol per year;

2. One (1) unloading/loading station, identified as Portable pump, constructed in 1983, with a maximum throughput of 33,000,000 pounds per year;

3. One (1) unloading/loading station, identified as Railsiding, constructed in 1978, with a maximum throughput of 73,000,000 pounds of maleic anhydride/dicyclopentadiene per year;

4. One (1) unloading/loading station, identified as Railsiding, constructed in 1997, with a maximum throughput of 73,000,000 pounds of styrene per year;

5. One (1) unloading/loading station, identified as Railsiding, constructed in 1999, with a maximum throughput of 73,000,000 pounds of polyester resin per year;

6. One (1) unloading/loading station, identified as Ethylene Glycol/Methyl Propanediol, constructed in 1984, with a maximum throughput of 29,200,000 pounds per year;

7. One (1) unloading/loading station, identified as Phthalic Anhydride, constructed in 1987, with a maximum throughput of 14,600,000 pounds per year;

8. One (1) unloading/loading station, identified as Diethylene Glycol/Propylene Glycol, constructed in 1984, with a maximum throughput of 29,200,000 pounds per year;

9. One (1) unloading/loading station, identified as 1,3 Butylene Glycol at P4, constructed in 1989;

10. One (1) unloading/loading station, identified as Flammable Unloading of Polyester Resin, constructed in 1984, with a maximum throughput of 43,800,000 pounds per year;

11. One (1) unloading/loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of 65,000,000 pounds per year;

12. One (1) unloading/loading station, identified as Tanker Bays 3 and 4, constructed in 1984, with a maximum throughput of 65,000,000 pounds per year; and

13. One (1) unloading/loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of 65,000,000 pounds per year.

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

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):
(a) Emission units with PM and PM10 emissions less than five (5) tons per year, SO2, NOx, and VOC emissions less than ten (10) tons per year, CO emissions less than twenty-five (25) tons per year, and lead emissions less than two-tenths (0.2) tons per year;

(1) One (1) tank storing phthalic anhydride, identified as storage tank 1, constructed in 1973, with a maximum capacity of 16,000 gallons;

(2) One (1) tank storing maleic anhydride, identified as storage tank 16, constructed in 1986, with a maximum capacity of 40,000 gallons;

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(3) One (1) tank storing DCPD, identified as storage tank 4, constructed in 1973, with a maximum capacity of 30,000 gallons and controlled by an activated carbon conservation vent;

(4) Five (5) tanks storing glycol, identified as storage tank 5, 10, 11, 17, and 18, constructed in 1974, 1976, 1975, 1976 and 1977, respectively. Tanks 5, 10, 17 and 18 have a maximum capacity of 30,000 gallons each, and Tank 11 has a maximum capacity of 31,400 gallons.

(5) One (1) 6,000 gallon distillate hold tank and one (1) 500 gallon aqueous ammonium storage tank used to hold and neutralize process wastewater prior to incineration;

(6) One (1) tank storing mixed glycols and monomer, identified as storage tank 7, approved for construction in 2011, with a maximum capacity of 25,000 gallons;

(7) One (1) 3,200 gallon glycol boil tank;

(8) Piping fugitives;

(9) Inhibitor room;

(10) One (1) IPA surge vent, and one (1) maintenance building vent;

(11) Two (2) fume hoods;

(12) Acrylic bead blower exhaust;

(13) Waste oil tank vent;

(14) SMC Machine (R & D); and

(15) Talc charging blower exhaust, with voluntary baghouse.

(b) Research and development activities with the primary purpose to test more efficient production processes, test methods for preventing or reducing adverse environmental impacts, or conduct research and development into new processes and products:

(1) One (1) Development and Testing Pultrusion Unit with styrene monomer resin, with a maximum capacity of 180 fiberglass parts per hour, using one (1) cyclone vacuum unit with a HEPA filter and carbon adsorption unit for control, exhausting to two (2) stacks (J-280 and J-281)

(c) Three (3) parts washers, one with a tank capacity of fifty (50) gallons, and two (2) with
tank capacity of thirty-five (35) gallons each.

(d) Diesel generators not exceeding 1600 horsepower;

(1) One (1) diesel-fired emergency generator for boilers, identified as GT600, installed in October 2002, with a rating of 1592 Hp;

[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(2) One (1) diesel-fired emergency (backup) generator for the process, identified as LT600, installed in December 1985, with a rating of 154 Hp;

[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(e) Stationary fire pumps:

(1) One (1) diesel-fired emergency fire pump, identified as LT600, installed in September 1984, with a rating of 190 Hp;

[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

A.4 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) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons:

(1) Two (2) diesel storage tanks, each with a maximum capacity of 250 gallons.

(b) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;

(c) Natural gas-fired combustion source with heat input equal to or less than ten million (10,000,000) British thermal units per hour;

(1) Eight (8) furnaces, with a total rated heat capacity of 1.7 million British thermal units per hour (MMBtu/hour).

(d) Noncontact cooling tower systems with either of the following:

(1) Forced and induced draft cooling tower system not regulated under a NESHAP.

(e) Vacuum pump, air compressor, chiller heater, monorail crane, high sheer mixer, and glass cutter.

(f) Emissions from a laboratory as defined in 326 IAC 2-7-1(21)(G), including seven (7) lab vents from the Process Control Lab and the Quality Assurance Lab.

A.5 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) to renew 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 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]
(a) This permit, F127-39976-00003, is issued for a fixed term of ten (10) 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.3 Term of Conditions [326 IAC 2-1.1-9.5]
Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

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

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

B.4 Enforceability [326 IAC 2-8-6] [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.5 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.6 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.7 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.8 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:
(1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and

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

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

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

B.9 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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

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

(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.10 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.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 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, or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

   Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
   Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
   Facsimile Number: 317-233-6865
   Northwest Regional Office phone: (219) 464-0233; fax: (219) 464-0553.

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

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

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

   The notice fulfills the requirement of 326 IAC 2-8-4(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.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F127-39976-00003 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.14 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.15 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.16 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(42). 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:
(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.17 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.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) 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 5
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

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

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

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

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

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

B.19 Source Modification Requirement [326 IAC 2-8-11.1]
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 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.21 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.22 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.23 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  Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2  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 volatile organic compounds (VOCs) from the entire source shall be limited to less than fifty (50) tons per twelve (12) consecutive month period;

(2)  The potential to emit nitrogen oxides (NOx) from the entire source shall be limited to less than fifty (50) tons per twelve (12) consecutive month period;

(3)  The potential to emit any regulated pollutant, except particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (NOx), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period;

(4)  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

(5)  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.

(b)  Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) 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.3 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 forty percent (40%) 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.4 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.5 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.6 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.7 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.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or
(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.9 Performance Testing [326 IAC 3-6]

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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 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) 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.10 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(1)][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

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

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

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

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

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

C.12 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. The analog instrument shall be capable of measuring values outside of the normal range.
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.13 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.14 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.15 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.16 Emission Statement [326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-1(a), the Permittee shall submit an emission statement by July 1 following a calendar year when the source emits oxides of nitrogen or volatile organic compounds into the ambient air equal to or greater than twenty-five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

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

The emission statement does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

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

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

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

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

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

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

(b) The address for report submittal is:

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

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

(d) 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.19 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

<table>
<thead>
<tr>
<th>Emissions Unit Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1977, with a rated heat capacity of 25 million British thermal units per hour (MMBtu/hour);</td>
</tr>
</tbody>
</table>

  [Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]

| (b) One (1) hot oil heater burning natural gas and using #2 fuel oil as a back-up fuel, constructed in 1973, with a rated heat capacity of 18 MMBtu per hour; |

| (c) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1990, with a rated heat capacity of 12.5 MMBtu per hour. |

  [Under 40 CFR 60, Subpart Dc, this unit is considered an affected facility.]

  [Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]

| (d) One (1) natural gas-fired thermal oxidizer, using No. 2 fuel oil-fired as a back-up fuel, constructed in 1977 with a rated heat capacity of 8 MMBtu per hour, and used to control the two (2) reactors, exhausting to a stack. |

(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)]

<table>
<thead>
<tr>
<th>D.1.1 Fuel Usage Limit [326 IAC 2-8][326 IAC 2-2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) The combined usage of No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall be limited to 2500 kilogallons per twelve (12) consecutive month period, with compliance determined at the end of each month.</td>
</tr>
</tbody>
</table>

| (b) SO₂ emissions from No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall not exceed 71 lbs of SO₂ per kilogallon of #2 fuel oil. |

| (c) Sulfur content shall not exceed five tenths percent (0.5%) when using distillate oil (including #2 fuel oil). |

| (d) NOₓ emissions from No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall not exceed 20 lbs of NOₓ per kilogallon. |

Compliance with the above limit, combined with the potential to emit SO₂ from other emission units at the source, shall limit the SO₂ from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

<table>
<thead>
<tr>
<th>D.1.2 Particulate Emission Limitations [326 IAC 6-2-2][326 IAC 6-2-4]</th>
</tr>
</thead>
</table>
| (a) Pursuant to 326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to Pt pounds per MMBtu heat input, as follows:
<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler (18 million British thermal units)</td>
<td>0.55</td>
</tr>
<tr>
<td>Boiler (25 million British thermal units)</td>
<td>0.48</td>
</tr>
</tbody>
</table>

(b) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to Pt pounds per MMBtu heat input, as follows:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler (12.5 million British thermal units)</td>
<td>0.38</td>
</tr>
</tbody>
</table>

D.1.3 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1][326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations), the SO₂ emissions from the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, and the 12.5 MMBtu per hour boiler shall each not exceed five tenths (0.5) pound per MMBtu heat input when using distillate oil (including #2 fuel oil).

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

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.5 Sulfur Dioxide Emissions and Sulfur Content

In order to comply with Condition D.1.3, the Permittee shall comply with the following:

(a) Pursuant to 326 IAC 7-2-1(d)(2), compliance shall be determined using a calendar month average sulfur dioxide emission rate in pounds per MMBtu.

(b) Compliance shall be determined using one of the following options:

(i) Pursuant to 326 IAC 7-2-1(h)(3) and (4), the Permittee shall demonstrate compliance by:

   (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, in accordance with 326 IAC 3-7 or;

   (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19, accordance with 326 IAC 3-6.

   (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

   (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(ii) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for sulfur dioxide emissions from 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, and/or the 12.5 MMBtu per hour boiler 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 Condition D.5.3(b)(i) or (ii) above shall not be refuted by evidence of compliance pursuant to the other method.

**Record Keeping and Reporting Requirements**  [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

**D.1.6 Record Keeping Requirements**

(a) To document the compliance status with Conditions D.1.1 and D.1.3, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO₂ emission limit established in Conditions D.1.1 and D.1.3.

1. Calendar dates covered in the compliance determination period;
2. Actual fuel oil usage since last compliance determination period and equivalent calculated sulfur dioxide emissions;
3. To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.
4. If the fuel vendor certification is used to demonstrate compliance, the following, as a minimum, shall be maintained:
   i. Fuel supplier certifications;
   ii. The name of the fuel vendor; and
   iii. A statement from the fuel vendor that certifies the sulfur content of the fuel oil.
5. If oil sampling is used to determine the sulfur content of the oil and to demonstrate compliance, analysis of the oil sample shall be maintained.
6. If conducting a stack test for sulfur dioxide emissions is used to demonstrate compliance, the stack test results, as a minimum, shall be maintained.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

**D.1.7 Reporting Requirements**

A quarterly summary of the information to document the compliance status with Conditions D.1.1, shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that 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 D.2  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) Two (2) reactors, identified as reactor No. 1 and No. 2, constructed in 1973 and 1985, respectively, with a maximum capacity of 8,000 and 9,000 gallons, respectively, using the following for VOC control;

(1) One (1) natural gas-fired thermal oxidizer, using No. 2 fuel oil-fired as a back-up fuel, constructed in 1977 with a rated heat capacity of 8 MMBtu per hour, and used to control the two (2) reactors, exhausting to a stack.

(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.2.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 2-3][326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

(a) The raw material input to the two (2) reactors shall be limited to less than 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) VOC content from the two (2) reactors shall not exceed 20% VOC, during vapor phase.

(c) VOC content from the two (2) reactors shall not exceed 15% VOC, during liquid phase.

(d) Yield loss from the two (2) reactors shall not exceed 15% VOC.

(e) Vapor loss from the two (2) reactors shall not exceed 12%.

(f) Distillate loss from the two (2) reactors shall not exceed 95%.

(g) The source shall use the thermal oxidizer with an efficiency of 99.75% in order to comply with this limit.

Compliance with the above limit, combined with the potential to emit VOC from other emission units at the source, shall limit the source-wide total potential to emit of VOC to less than 50 tons per twelve (12) consecutive month period, and and shall render the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 2-7 (Part 70 Permits) not applicable.

D.2.2 Best Available Control Technology (BACT) - VOC [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), the Permittee shall control VOC emissions using the Best Available Control Technology (BACT), which has been determined to be the following:

(a) The VOC emissions from the Reactor, identified as Reactor No. 2, shall be controlled by a thermal oxidizer.

(b) The overall control efficiency, including capture and destruction efficiency, shall be at least 99.7%, or the VOC outlet concentration shall not exceed 20 ppmv at 100% capture.
D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.2.4 Volatile Organic Compounds (VOC) Control

In order to assure compliance with Condition D.2.1 and D.2.2, the thermal oxidizer for VOC control shall be in operation and control emissions from the two (2) reactors at all times the two (2) reactors are in operation.

D.2.5 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.2.1 and D.2.2, the Permittee shall perform overall VOC testing of the thermal oxidizer controlling reactor No. 1 and No. 2 utilizing methods as approved by the Commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

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

D.2.6 Thermal Oxidizer Temperature Monitoring

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as 3-hour average.

(b) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Condition D.2.1 and D.2.2.

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the latest compliant stack test.

(d) If the 3-hour average temperature falls below the above mentioned 3-hour average temperature, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A 3-hour average temperature reading below the above mentioned 3-hour average temperature is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.2.7 Thermal Oxidizer/RTO Duct Pressure or Fan Amperage

(a) The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in condition D.2.1 and D.2.3.

(b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer is in operation. On and after the date the stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test. When, for any one reading, the duct pressure or fan amperage is outside the appropriate range established during the latest compliant stack test.
(c) When, for any one reading, the duct pressure or fan amperage is outside the above mentioned range, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A reading 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.

(d) The instruments used for determining the pressure drop 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.

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

D.2.8 Record Keeping Requirements

(a) To document compliance with Condition D.2.1 and D.2.2, the Permittee shall maintain monthly records of the total raw material input to the two (2) reactors.

(b) To document the compliance status with Condition D.2.6, the Permittee shall maintain continuous temperature records for the thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(c) To document the compliance status with Condition D.2.7, the Permittee shall maintain daily records documenting the combustion fan is operational. The Permittee shall include in its daily record when the combustion fan is not operating (e.g. the process did not operate that day).

(d) Section C - General Record Keeping Requirements contains the Permittee’s obligation with regard to the records required by this condition.

D.2.9 Reporting Requirements

A quarterly report of raw material input to the two (2) reactors and a quarterly summary of the information to document the compliance status with D.2.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition.

The report 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).
SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(e) One (1) process styrene emission control system consisting of two (2) activated carbon units in series with continuous styrene emission monitoring, controlling items (f), (g), (h), and (i), and constructed in 1998;

(f) Two (2) thinning tanks, identified as thinning tank No. 1 and No. 2, constructed in 1973 and 1985, respectively, both storing polyester resin, with a maximum capacity of 16,100 and 17,700 gallons, respectively, and both with VOC emissions controlled by the process styrene emission control system described in (e);

(g) Seven (7) mix tanks, identified as mix tank No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 7 constructed in 1973, 1973, 1979, 1996, 1999, 1999, and permitted in 2016, respectively, all storing polyester resin, with a maximum capacity of 6,000, 15,000, 800, 6,000, 6,000, and 6,000 gallons, respectively, controlled by the process styrene emission control system described in (e);

(h) One (1) styrene flush tank used to hold and capture styrene and used to flush pipes and process vessels between product runs, venting to the process styrene emission control system described in (e);

(i) One (1) drum off station and vent, constructed in 1985, which transfers finished products to drums and totes for shipment, with a maximum throughput of 6,015 tons per year, and with VOC emissions controlled by the process styrene emission control system described in (e);

(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.3.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 8-1-6 not applicable, the Permittee shall comply with the following:

(a) The styrene monomer resin production for the thinning tanks shall be limited to less than 94,365 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) VOC and HAPs emissions from the monomer resin production for the thinning tanks shall not exceed 0.00081 lb/ton.

(c) The styrene monomer resin production for the blend tanks and flush tanks shall be limited to less than 94,365 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) VOC and HAPs emissions from the monomer resin production for the blend tanks and flush tanks shall not exceed 0.00081 lb/ton.

(e) The drum off vent throughput shall be limited to less than 6,015 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
(f) VOC emissions from the drum off vent shall not exceed 0.09 lb/ton and HAPs emissions shall not exceed 0.032 lb/ton.

Compliance with the above limit, combined with the potential to emit VOC from other emission units at the source, shall limit the source-wide total potential to emit of VOC to less than 25 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permits) and 326 IAC 8-1-6 not applicable.

Compliance with this limit, shall limit the potential to emit of HAP less than 10 tons of any individual HAP, and less than 25 tons of any combination of HAPs, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.3.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.3.3 Volatile Organic Compounds (VOC) Control

In order to comply with Conditions D.3.1, the two (2) activated carbon units shall be in operation and control emissions from the styrene monomer resin production, at all times the styrene monomer resin production is in operation.

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

D.3.4 Compliance Monitoring

In order to comply with D.3.1, emission concentrations from each activated carbon unit shall be measured at least weekly. When styrene concentrations are in excess of 50 parts per million (ppm), a stand-by set of carbon canisters shall be placed into service and the spent carbon canisters shall be removed, regenerated and placed into stand-by service.

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

D.3.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.1, the Permittee shall maintain monthly records of the styrene monomer resin production for the thinning tanks, flush tank and mix tanks. The Permittee shall also maintain monthly records of the drum off system throughput.

(b) To document the compliance status with Conditions D.3.4, the Permittee shall maintain records of the styrene concentration at the carbon canister stack outlet, and a log of the dates of carbon canister replacement and regeneration.

(c) Section C - General Record Keeping Requirements contains the Permittee’s obligations with regard to the records required by this condition.

D.3.6 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.3.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that 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 D.4  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(j) Two storage tanks styrene emission control systems consisting of one (1) activated carbon unit each. The storage tanks listed below vent through one of the systems: storage tanks No. 2, 3, 6, 8, and 9 vent through the east styrene emission control system; and storage tanks No. 12, 13, 14, 19, 20, 21, and 23 vent through the west styrene emission control system.

(1) One (1) tank storing resin, identified as storage tank 2, constructed in 1973, with a maximum capacity of 16,000 gallons;

(2) Two (2) tanks storing resin, identified as storage tank 3 and 6, both constructed in 1973, each with a maximum capacity of 30,000 gallons;

(3) Two (2) tanks storing resin, identified as storage tanks 8 and 9, both constructed in 1975, each with a maximum capacity of 105,000 gallons;

(4) Three (3) tanks storing resin, identified as storage tanks 12, 13, and 14, constructed in 1979, 1981 and 1981, respective, each with a maximum capacity of 50,000 gallons;

(5) One (1) tank storing styrene, identified as tank 19, constructed in 1995, with a maximum capacity of 69,000 gallons;

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(6) Two (2) storage tanks for resin, identified as storage tanks 20 and 21, both constructed in 1997, each with a maximum capacity of 30,000 gallons; and

[Under 40 CFR 60, Subpart Kb, these units are considered affected facilities.]

(7) One (1) resin storage tank, identified as storage tank 23, permitted in 2017, with a maximum capacity of 32,500 gallons.

[Under 40 CFR 60, Subpart Kb, this unit 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.)

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

D.4.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 8-1-6 not applicable, the Permittee shall comply with the following:

(a) The styrene monomer resin production for the storage tanks shall be limited to less than 155,935 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) VOC emissions from styrene monomer resin production shall not exceed 0.014 lb/ton.
(c) HAPs emissions from styrene monomer resin production shall not exceed 0.0065 lb/ton.

(b) The source will use an activated carbon conservation vent with an overall efficiency of 90.25% in order to comply with this limit.

Compliance with the above limit, combined with the potential to emit VOC from other emission units at the source, shall limit the source-wide total potential to emit of VOC to less than 25 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permits) and 326 IAC 8-1-6 not applicable.

Compliance with this limit, shall limit the potential to emit of HAP less than 10 tons of any individual HAP, and less than 25 tons of any combination of HAPs, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.4.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.4.3 Volatile Organic Compounds (VOC) Control

In order to comply with Conditions D.4.1, the two (2) activated carbon units shall be in operation and control emissions from the styrene monomer resin production, at all times the styrene monomer resin production is in operation.

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

D.4.4 Compliance Monitoring

In order to comply with D.4.1, emission concentrations from each activated carbon unit shall be measured at least weekly. When styrene concentrations are in excess of 50 parts per million (ppm), a stand-by set of carbon canisters shall be placed into service and the spent carbon canisters shall be removed, regenerated and placed into stand-by service.

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

D.4.5 Record Keeping Requirements [326 IAC 8-9]

(a) To document the compliance status with Condition D.4.1, the Permittee shall maintain monthly records of the styrene monomer resin production for the storage tanks.

(b) To document the compliance status with Conditions D.4.4, the Permittee shall maintain records of the styrene concentration at the carbon canister stack outlet, and a log of the dates of carbon canister replacement and regeneration.

(c) Pursuant to 326 IAC 8-9, the owner of operator of storage tanks 2, 3, 6, 8, 9, 12, 13, and 14 shall maintain a record and submit to IDEM, OAQ a report containing the following information for each vessel:

(1) The vessel identification number;
(2) The vessel dimensions; and
(3) The vessel capacity.

The records shall be maintained for the life of the vessel.

(d) Section C - General Record Keeping Requirements contains the Permittee’s obligations
with regard to the records required by this condition.

D.4.6 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.4.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that 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 D.5  EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

| (k) | One (1) pneumatic conveying system (IPA unloading), constructed in 1991, with a maximum throughput of 10,000,000 pounds per year, and with particulate emissions controlled by a bag filter (isophthalic unloading system); |
| (l) | One (1) bulk isophthalic acid handling system, constructed in 1983, with a maximum throughput of 10,000,000 pounds per year; |
| (m) | Thirteen (13) unloading/loading stations with fugitive VOC and HAP emissions: |
| (1) | One (1) unloading/loading station, identified as Backpad, constructed in 1990, and relocated/modified in 1999, with a maximum throughput of 2,000,000 pounds of glycol per year; |
| (2) | One (1) unloading/loading station, identified as Portable pump, constructed in 1983, with a maximum throughput of 33,000,000 pounds per year; |
| (3) | One (1) unloading/loading station, identified as Railsiding, constructed in 1978, with a maximum throughput of 73,000,000 pounds of maleic anhydride/dicyclopentadiene per year; |
| (4) | One (1) unloading/loading station, identified as Railsiding, constructed in 1997, with a maximum throughput of 73,000,000 pounds of styrene per year; |
| (5) | One (1) unloading/loading station, identified as Railsiding, constructed in 1999, with a maximum throughput of 73,000,000 pounds of polyester resin per year; |
| (6) | One (1) unloading/loading station, identified as Ethylene Glycol/Methyl Propanediol, constructed in 1984, with a maximum throughput of 29,200,000 pounds per year; |
| (7) | One (1) unloading/loading station, identified as Phthalic Anhydride, constructed in 1987, with a maximum throughput of 14,600,000 pounds per year; |
| (8) | One (1) unloading/loading station, identified as Diethylene Glycol/Propylene Glycol, constructed in 1984, with a maximum throughput of 29,200,000 pounds per year; |
| (9) | One (1) unloading/loading station, identified as 1,3 Butylene Glycol at P4, constructed in 1989; |
| (10) | One (1) unloading/loading station, identified as Flammable Unloading of Polyester Resin, constructed in 1984, with a maximum throughput of 43,800,000 pounds per year; |
| (11) | One (1) unloading/loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of 65,000,000 pounds per year; |
| (12) | One (1) unloading/loading station, identified as Tanker bays 3 and 4, |
constructed in 1984, with a maximum throughput of 65,000,000 pounds per year; and

(13) One (1) unloading/loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of 65,000,000 pounds per year.

Insignificant Activities:

(b) Research and development activities with the primary purpose to test more efficient production processes, test methods for preventing or reducing adverse environmental impacts, or conduct research and development into new processes and products:

(1) One (1) Development and Testing Pultrusion Unit with styrene monomer resin, with a maximum capacity of 180 fiberglass parts per hour, using one (1) cyclone vacuum unit with a HEPA filter and carbon adsorption unit for control, exhausting to two (2) stacks (J-280 and J-281)

(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.5.1 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6][326 IAC 2-3][326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 8-1-6 not applicable, the Permittee shall comply with the following:

(a) The styrene monomer resin usage for the development and testing pultrusion unit shall be limited to less than 1578.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Styrene content from the styrene monomer resin shall not exceed 35% styrene.

(c) Styrene emitted from the styrene monomer resin shall not exceed 4%.

(d) The minimum overall VOC control efficiency of the carbon adsorption unit shall be 90%.

Compliance with the above limit, combined with the potential to emit VOC from other emission units at the source, shall limit the source-wide total potential to emit of VOC to less than 25 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permits) and 326 IAC 8-1-6 not applicable.

D.5.2 Particulate Emission Limitations [326 IAC 6-3-2]

The particulate from the pneumatic conveying system, and the bulk isophthalic acid handling system shall be limited as follows:

<table>
<thead>
<tr>
<th>Process</th>
<th>Process Weight Rate (ton/hr)</th>
<th>Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic conveying system (IPA unloading)</td>
<td>0.57</td>
<td>2.80</td>
</tr>
<tr>
<td>Bulk isophthalic acid handling system</td>
<td>0.57</td>
<td>2.80</td>
</tr>
</tbody>
</table>
Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

\[ E = 4.10 P^{0.67} \]

where \( E \) = rate of emission in pounds per hour and
\( P \) = process weight rate in tons per hour

When the process weight is less than 100 pounds per hour, the particulate emissions shall not exceed 0.551 pound per hour.

D.5.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.5.4 Particulate

(a) In order to comply with Condition D.5.2, The Permittee shall operate the baghouse and control emissions from the pneumatic conveying system at all times that the facilities are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.5.5 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)

In order to comply with Condition D.5.1, the carbon adsorption unit for VOC and HAP control shall be in operation and control emissions from the development and testing pultrusion unit at all times that the development and testing pultrusion unit is in operation.

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

D.5.6 Activated Carbon

Emission concentrations for the activated carbon unit associated with the development and testing pultrusion unit shall be measured weekly. When styrene concentrations are in excess of 50 parts per million (ppm) stand-by carbon canisters shall be placed into service and the spent carbon shall be removed, regenerated, and placed in stand-by service.

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

D.5.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1, the Permittee shall maintain monthly records of the styrene monomer resin usage.

(b) To document the compliance status with Conditions D.5.6, the Permittee shall maintain the following:

(1) The weekly styrene concentration at the carbon canister stack outlet; and

(2) A log of the dates of carbon replacement and regeneration
(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.5.8 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.5.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that 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 D.6  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Emission units with PM and PM10 emissions less than five (5) tons per year, SO2, NOx, and VOC emissions less than ten (10) tons per year, CO emissions less than twenty-five (25) tons per year, and lead emissions less than two-tenths (0.2) tons per year;

(1) One (1) tank storing phthalic anhydride, identified as storage tank 1, constructed in 1973, with a maximum capacity of 16,000 gallons;

(2) One (1) tank storing maleic anhydride, identified as storage tank 16, constructed in 1986, with a maximum capacity of 40,000 gallons;

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(3) One (1) tank storing DCPD, identified as storage tank 4, constructed in 1973, with a maximum capacity of 30,000 gallons and controlled by an activated carbon conservation vent;

(4) Five (5) tanks storing glycol, identified as storage tank 5, 10, 11, 17, and 18, constructed in 1974, 1976, 1975, 1976 and 1977, respectively. Tanks 5, 10, 17 and 18 have a maximum capacity of 30,000 gallons each, and Tank 11 has a maximum capacity of 31,400 gallons.

(5) One (1) 6,000 gallon distillate hold tank and one (1) 500 gallon aqueous ammonium storage tank used to hold and neutralize process wastewater prior to incineration;

(6) One (1) tank storing mixed glycols and monomer, identified as storage tank 7, approved for construction in 2011, with a maximum capacity of 25,000 gallons;

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

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

D.6.1 Record Keeping Requirements [326 IAC 8-9]

(a) Pursuant to 326 IAC 8-9, the owner or operator of storage tanks 1, 4, 5, 7, 10, 11, 17 and 18, the distillate hold tank and the ammonium storage tank shall maintain a record and submit to IDEM, OAQ a report containing the following information for each vessel:

(1) The vessel identification number;
(2) The vessel dimensions; and
(3) The vessel capacity.

The records shall be maintained for the life of the vessel. The requirement in (a) to submit a report to IDEM, OAQ, has already been satisfied. The report was submitted June 21, 1996.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.
## SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

| (c) | Three (3) parts washers, one with a tank capacity of fifty (50) gallons, and two (2) with tank capacity of thirty-five (35) gallons each. |

(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.7.1 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]**

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

1. Equip the degreaser with a cover.
2. Equip the degreaser with a device for draining cleaned parts.
3. Close the degreaser cover whenever parts are not being handled in the degreaser.
4. Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
5. Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
6. Store waste solvent only in closed containers.
7. Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

1. Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
   - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
   - (B) A water cover when solvent used is insoluble in, and heavier than, water.
   - (C) A refrigerated chiller.
   - (D) Carbon adsorption.
   - (E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

2. Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.
(3) If used, solvent spray:
   (A) must be a solid, fluid stream; and
   (B) shall be applied at a pressure that does not cause excessive splashing.

D.7.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), the Permittee shall not operate a cold cleaning degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.7.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

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

D.7.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.7.2, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

   (1) The name and address of the solvent supplier.
   (2) The date of purchase (or invoice/bill dates of contract servicer indicating service date).
   (3) The type of solvent purchased.
   (4) The total volume of the solvent purchased.
   (5) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.
SECTION E.1 NSPS

Emissions Unit Description:

(c) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1990, with a rated heat capacity of 12.5 MMBtu per hour.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected facility.]
[Under 40 CFR 63, Subpart JJJJJJ, this unit 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 [326 IAC 2-8-4(1)]


(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 60, Subpart Dc.

(b) Pursuant to 40 CFR 60.4, 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 Small Industrial - Commercial - Institutional Steam Generating Unit NSPS [326 IAC 12][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 to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission units listed above:

(1) 40 CFR 60.40c(a), (b), (c), (d)
(2) 40 CFR 60.41c
(3) 40 CFR 60.42c(d)
(4) 40 CFR 60.42c(g), (h), (i)
(5) 40 CFR 60.44c(a), (b), (c), (e), (g), (h), (j)
(6) 40 CFR 60.46c(d)
(7) 40 CFR 60.46c(a), (b), (d), (e), (f), (g), (i), (j)
### Emissions Unit Description:

1. **One (1) tank storing maleic anhydride, identified as storage tank 16, constructed in 1986, with a maximum capacity of 40,000 gallons;**
   
   Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

2. **One (1) tank storing styrene, identified as tank 19, constructed in 1995, with a maximum capacity of 69,000 gallons;**
   
   Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

3. **Two (2) storage tanks for resin, identified as storage tanks 20 and 21, both constructed in 1997, each with a maximum capacity of 30,000 gallons; and**
   
   Under 40 CFR 60, Subpart Kb, these units are considered affected facilities.

4. **One (1) resin storage tank, identified as storage tank 23, permitted in 2017, with a maximum capacity of 32,500 gallons.**
   
   Under 40 CFR 60, Subpart Kb, this unit 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 [326 IAC 2-8-4(1)]


1. Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 60, Subpart Kb.

2. Pursuant to 40 CFR 60.4, 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 Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 NSPS [326 IAC 12][40 CFR Part 60, Subpart Kb]

The Permittee shall comply with the following provisions of 40 CFR 60, Subpart Kb (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission units listed above:

1. 40 CFR 60.110b
2. 40 CFR 60.111b
3. 40 CFR 60.116(a)
4. 40 CFR 60.116(b)
(5) 40 CFR 60.116(d)
Emissions Unit Description:

(a) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1977, with a rated heat capacity of 25 million British thermal units per hour (MMBtu/hour);

[Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]

(c) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1990, with a rated heat capacity of 12.5 MMBtu per hour.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected facility.]
[Under 40 CFR 63, Subpart JJJJJJ, this unit 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.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-8-4(1)]


(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart JJJJJJ.

(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 Industrial, Commercial, and Institutional Boilers Area Sources NESHAP [40 CFR Part 63, Subpart JJJJJJ]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart JJJJJJ (included as Attachment C to the operating permit), for the emission unit(s) listed above:

(1) 40 CFR 63.11193
(2) 40 CFR 63.11194(a)(1), (b)
(3) 40 CFR 63.11196(a)
(4) 40 CFR 63.11200
(5) 40 CFR 63.11201(b), (d)
(6) 40 CFR 63.11205(a)
(7) 40 CFR 63.11210(b), (c), (j)
(8) 40 CFR 63.11214(c)
(9) 40 CFR 63.11220(a)
(10) 40 CFR 63.11221
(11) 40 CFR 63.11223(a),(b)
(12) 40 CFR 63.11225
(13) 40 CFR 63.11235
(14) 40 CFR 63.11236
(15) 40 CFR 63.11237
(16) Table 2 (item 4)
(17) Table 8

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

E.3.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee’s obligation with regard to the preventive maintenance plan required by this condition.
### Emissions Unit Description:

(d) Diesel generators not exceeding 1600 horsepower;

1. One (1) diesel-fired emergency generator for boilers, identified as GT600, installed in October 2002, with a rating of 1592 Hp;

   [Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

2. One (1) diesel-fired emergency (backup) generator for the process, identified as LT600, installed in December 1985, with a rating of 154 Hp;

   [Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(e) Stationary fire pumps:

1. One (1) diesel-fired emergency fire pump, identified as LT600, installed in September 1984, with a rating of 190 Hp;

   [Under 40 CFR 63, Subpart ZZZZ, this unit 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.)

### National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]


- **(a)** Pursuant to 40 CFR 63.1, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 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.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]**

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment D to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

1. 40 CFR 63.6580
2. 40 CFR 63.6585(a), (c), (d)
3. 40 CFR 63.6590(a)(1)(iii)
4. 40 CFR 63.6595(a), (c)
(5) 40 CFR 63.6603(a)
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e), (f), (h), (j)
(8) 40 CFR 63.6640(a), (b), (e), (f)(1), (f)(2)(i), and (f)(4)
(9) 40 CFR 63.6645(a)(2)
(10) 40 CFR 63.6650(a)-(c), (h)
(11) 40 CFR 63.6655(a), (d)-(f)
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2d to Subpart ZZZZ of Part 63
(17) Table 6 to Subpart ZZZZ of Part 63
(18) Table 7 to Subpart ZZZZ of Part 63
(19) Table 8 to Subpart ZZZZ of Part 63

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

E.4.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
CERTIFICATION

Source Name: AOC, LLC  
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383  
FESOP Permit No.: F127-39976-00003

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:
### FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
#### EMERGENCY OCCURRENCE REPORT

**Source Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**FESOP Permit No.:** F127-39976-00003

**This form consists of 2 pages**

<table>
<thead>
<tr>
<th>□ This is an emergency as defined in 326 IAC 2-7-1(12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 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</td>
</tr>
<tr>
<td>• 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 2-8-12-</td>
</tr>
</tbody>
</table>

If any of the following are not applicable, mark N/A

<table>
<thead>
<tr>
<th>Facility/Equipment/Operation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Equipment:</td>
</tr>
<tr>
<td>Permit Condition or Operation Limitation in Permit:</td>
</tr>
<tr>
<td>Description of the Emergency:</td>
</tr>
<tr>
<td>Describe the cause of the Emergency:</td>
</tr>
</tbody>
</table>
### Emergency Report Form

If any of the following are not applicable, mark N/A

<table>
<thead>
<tr>
<th><strong>Date/Time Emergency started:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date/Time Emergency was corrected:</strong></td>
</tr>
<tr>
<td><strong>Was the facility being properly operated at the time of the emergency?</strong></td>
</tr>
<tr>
<td><strong>Describe:</strong></td>
</tr>
<tr>
<td><strong>Type of Pollutants Emitted:</strong> TSP, PM-10, SO2, VOC, NOx, CO, Pb, other:</td>
</tr>
<tr>
<td><strong>Estimated amount of pollutant(s) emitted during emergency:</strong></td>
</tr>
<tr>
<td><strong>Describe the steps taken to mitigate the problem:</strong></td>
</tr>
<tr>
<td><strong>Describe the corrective actions/response steps taken:</strong></td>
</tr>
<tr>
<td><strong>Describe the measures taken to minimize emissions:</strong></td>
</tr>
<tr>
<td><strong>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:</strong></td>
</tr>
</tbody>
</table>

---

**Form Completed by:** ____________________________

**Title / Position:** ____________________________

**Date:** ____________________________

**Phone:** ____________________________
**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF AIR QUALITY**  
**COMPLIANCE DATA SECTION**  

**FESOP Quarterly Report**

Source Name: AOC, LLC  
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383  
FESOP Permit No.: F127-39976-00003  
Facility: Three (3) Boilers (constructed in 1973, 1977 and 1990) and One (1) Thermal Oxidizer  
Parameter: No. 2 Fuel Oil Usage  
Limit: Less than a total of 2500 kilogallons per twelve (12) consecutive month period with compliance determined at the end of each month

<table>
<thead>
<tr>
<th>QUARTER</th>
<th>YEAR</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 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 DATA SECTION

FESOP Quarterly Report

Source Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
FESOP Permit No.: F127-39976-00003
Facility: Two (2) reactors (No. 1 and No. 2)
Parameter: Raw material input
Limit: Less than 50,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month

<table>
<thead>
<tr>
<th>QUARTER:</th>
<th>YEAR:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
<td></td>
</tr>
</tbody>
</table>

- □ 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 DATA SECTION

FESOP Quarterly Report

Source Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
FESOP Permit No.: F127-39976-00003
Facility: Two (2) thinning tanks (No. 1 and No. 2)
Parameter: Styrene monomer resin production
Limit: Less than 94,365 tons per twelve (12) consecutive month period with compliance
determined at the end of each month

QUARTER: ___________________ YEAR: ___________________

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
<td></td>
</tr>
</tbody>
</table>

☐ 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 DATA SECTION

FESOP Quarterly Report

Source Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
FESOP Permit No.: F127-39976-00003
Facility: Seven (7) mix tanks and one (1) flush tank (No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, No. 7)
Parameter: Styrene monomer resin production
Limit: Less than 94,365 tons per twelve (12) consecutive month period with compliance determined at the end of each month

<table>
<thead>
<tr>
<th>QUARTER :</th>
<th>YEAR:____________________</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
   Deviation has been reported on:_________________________

Submitted by: _________________________________________
Title / Position: _________________________________________
Signature: _________________________________________
Date:  _________________________________________
Phone:  _________________________________________
**FESOP Quarterly Report**

**Source Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**FESOP Permit No.:** F127-39976-00003  
**Facility:** Drum off station and vent  
**Parameter:** Drum off vent throughput  
**Limit:** Less than 6,015 tons per twelve (12) consecutive month period with compliance determined at the end of each month

**QUARTER:** ___________________  **YEAR:** ___________________

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- □ 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 DATA SECTION  

FESOP Quarterly Report

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>AOC, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Address:</td>
<td>2552 Industrial Drive, Valparaiso, Indiana 46383</td>
</tr>
<tr>
<td>FESOP Permit No.:</td>
<td>F127-39976-00003</td>
</tr>
<tr>
<td>Facility:</td>
<td>Storage tanks (No. 2, No. 3, No. 6, No. 8, No. 9, No. 12, No. 13, No. 14, No. 19, No. 20 No. 21, and No. 23)</td>
</tr>
<tr>
<td>Parameter:</td>
<td>Styrene monomer resin production</td>
</tr>
<tr>
<td>Limit:</td>
<td>Less than 155,935 tons per twelve (12) consecutive month period with compliance determined at the end of each month</td>
</tr>
</tbody>
</table>

| QUARTER: | YEAR:_____________________

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
</tr>
</tbody>
</table>

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
  Deviation has been reported on:___________________________

Submitted by: ________________________________
Title / Position: ________________________________
Signature: ________________________________
Date: ________________________________
Phone: ________________________________
Source Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
FESOP Permit No.: F127-39976-00003
Facility: Development and testing pultrusion unit
Parameter: Styrene monomer resin usage
Limit: Less than 1578.90 tons per twelve (12) consecutive month period with compliance determined at the end of each month

<table>
<thead>
<tr>
<th>QUARTER</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- □ 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:   AOC, LLC  
Source Address:  2552 Industrial Drive, Valparaiso, Indiana 46383  
FESOP Permit No.:  F127-39976-00003

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th>Date of Deviation:</th>
<th>Duration of Deviation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.  
□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th>Date of Deviation:</th>
<th>Duration of Deviation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Requirement (specify permit condition #)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Date of Deviation:</td>
<td>Duration of Deviation:</td>
<td></td>
</tr>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Deviation:</td>
<td>Duration of Deviation:</td>
</tr>
<tr>
<td>Number of Deviations:</td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Deviation:</td>
<td>Duration of Deviation:</td>
</tr>
<tr>
<td>Number of Deviations:</td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
</tr>
</tbody>
</table>

Form Completed by: ________________________________
Title / Position: ________________________________
Date: _________________________________________
Phone: ________________________________________
Attachment A

Federally Enforceable State Operating Permit (FESOP) No: 127-39976-00003

[Downloaded from the eCFR on May 13, 2013]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

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

§ 60.40c   Applicability and delegation of authority.

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

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

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

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

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

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

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

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NOX standards under this subpart and the SO2 standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.
§ 60.41c Definitions.

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

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

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

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

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

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

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

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

Dry flue gas desulfurization technology means a SO2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.
Emerging technology means any SO2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).

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

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

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

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

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

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

Natural gas means:

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

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

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

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

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

Potential sulfur dioxide emission rate means the theoretical SO2 emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

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

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).
Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

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

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO₂ emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

1. The equipment is attached to a foundation.
2. The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
3. The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
4. The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

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


§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that:
(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO$_2$ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO$_2$ emissions limit or the 90 percent SO$_2$ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO$_2$ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 50 percent (0.50) of the potential SO$_2$ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO$_2$ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

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

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

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

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

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of the following:

(1) The percent of potential SO$_2$ emission rate or numerical SO$_2$ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;
(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and

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

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

\[
E_s = \left( \frac{K_a H_a + K_b H_b + K_c H_c}{H_a + H_b + H_c} \right)
\]

Where:

- \(E_s\) is the \(\text{SO}_2\) emission limit, expressed in ng/J or lb/MMBtu heat input;
- \(K_a = 520 \text{ ng/J (1.2 lb/MMBtu)}\);
- \(K_b = 260 \text{ ng/J (0.60 lb/MMBtu)}\);
- \(K_c = 215 \text{ ng/J (0.50 lb/MMBtu)}\);

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

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

- \(H_c\) is the heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential \(\text{SO}_2\) emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential \(\text{SO}_2\) emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion \(\text{SO}_2\) control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

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

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

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

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

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

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

(i) The \(\text{SO}_2\) emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.
(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.


§ 60.43c Standard for particulate matter (PM).

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

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

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

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

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

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

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

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

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

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

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

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

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

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under § 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in this section.


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

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

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂ emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and § 60.8, compliance with the percent reduction requirements and SO₂ emission limits under § 60.42c is based on the average percent reduction and the average SO₂ emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂ emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO₂ emission rate (Eₜₒ) and the 30-day average SO₂ emission rate (Eₜₒ). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate Eₜₒ when using daily fuel sampling or Method 6B of appendix A of this part.

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

(1) An adjusted Eₜₒ (Eₜₒ) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted Eₜₒ (Eₜₒ). The Eₜₒ is computed using the following formula:

\[ E_{ₜₒ} = \frac{E_{ₜₒ} - Eₜₕ(1 - Xₜ)}{Xₜ} \]
Where:

\[ E_{ho} = \text{Adjusted } E_{ho}, \text{ ng/J (lb/MMBtu)}; \]

\[ E_{ho} = \text{Hourly SO}_2\text{ emission rate, ng/J (lb/MMBtu)}; \]

\[ E_w = \text{SO}_2\text{ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value } E_w \text{ for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure } E_w \text{ if the owner or operator elects to assume } E_w = 0. \]

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

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

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the SO2 emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO2 emission rate is computed using the following formula:

\[
\% P_s = 100 \left( 1 - \frac{\% R_{g}}{100} \right) \left( 1 - \frac{\% R_{f}}{100} \right)
\]

Where:

\[ \% P_s = \text{Potential SO}_2\text{ emission rate, in percent}; \]

\[ \% R_{g} = \text{SO}_2\text{ removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent}; \]

and

\[ \% R_{f} = \text{SO}_2\text{ removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.} \]

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

(i) To compute the \( \% P_s \), an adjusted \( \% R_{g} \) (\( \% R_{g} \), \( \% R_{g,o} \)) is computed from \( E_{ao} \) from paragraph (e)(1) of this section and an adjusted average \( \text{SO}_2\text{ inlet rate} \) \( (E_{ai} \), \( E_{ai,o} \)) using the following formula:

\[
\% R_{g,o} = 100 \left( 1 - \frac{E_{ai}}{E_{ai,o}} \right)
\]

Where:

\[ \% R_{g} = \text{Adjusted } \% R_{g}, \text{ in percent}; \]

\[ E_{ao} = \text{Adjusted } E_{ao}, \text{ ng/J (lb/MMBtu)}; \]

and

\[ E_{ai} = \text{Adjusted average SO}_2\text{ inlet rate, ng/J (lb/MMBtu)}. \]
(ii) To compute $E_{h_{o}}$, an adjusted hourly SO$_2$ inlet rate ($E_{h_{o}}$) is used. The $E_{h_{o}}$ is computed using the following formula:

$$E_{h_{o}} = \frac{E_{h} - E_{w} \left( 1 - X_{k} \right)}{X_{k}}$$

Where:

$E_{h_{o}} = \text{Adjusted } E_{h}, \text{ ng/J (lb/MMBtu)}$;

$E_{h} = \text{Hourly SO}_2 \text{ inlet rate, ng/J (lb/MMBtu)}$;

$E_{w} = \text{SO}_2 \text{ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu)}$. The value $E_{w}$ for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure $E_{w}$ if the owner or operator elects to assume $E_{w} = 0$; and

$X_{k} = \text{Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.}$

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

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO$_2$ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in § 60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO$_2$ standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO$_2$ emissions data in calculating %PS and $E_{ho}$ under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %PS or $E_{ho}$ pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

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

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

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

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.
(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

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

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

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

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

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

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

(6) For determination of PM emissions, an oxygen (O2) or carbon dioxide (CO2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

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

(i) The O2 or CO2 measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

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

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

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

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

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

(2) Notify the Administrator 1 month before stopping use of the system.
(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

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

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

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

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

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

(ii) [Reserved]

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

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

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

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂ (or CO₂) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

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

(ii) For O₂ (or CO₂), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

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

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

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in § 60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see http://www.epa.gov/ttn/chief/ert/erttool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.
(d) The owner or operator of an affected facility seeking to demonstrate compliance under § 60.43c(e)(4) shall follow the applicable procedures under § 60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).


§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO2 emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO2 concentrations and either O2 or CO2 concentrations at the outlet of the SO2 control device (or the outlet of the steam generating unit if no SO2 control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO2 concentrations and either O2 or CO2 concentrations at both the inlet and outlet of the SO2 control device.

(b) The 1-hour average SO2 emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO2 emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under § 60.13(h)(2). Hourly SO2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

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

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

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

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO2 CEMS at the inlet to the SO2 control device shall be 125 percent of the maximum estimated hourly potential SO2 emission rate of the fuel combusted, and the span value of the SO2 CEMS at the outlet from the SO2 control device shall be 50 percent of the maximum estimated hourly potential SO2 emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO2 CEMS at the outlet from the SO2 control device (or outlet of the steam generating unit if no SO2 control device is used) shall be 125 percent of the maximum estimated hourly potential SO2 emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO2 control device (or outlet of the steam generating unit if no SO2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO2 control device (or outlet of the steam generating unit if no SO2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO2 emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO2 input rate.

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

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO2 at the inlet or outlet of the SO2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO2 and CO2 measurement train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO2 standards based on fuel supplier certification, as described under § 60.48c(f), as applicable.

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

§ 60.47c Emission monitoring for particulate matter.

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

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

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

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

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

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

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section. The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e. 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8).

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

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

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

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

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

(e) Owners and operators of an affected facility that is subject to an opacity standard in § 60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and
operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits in § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO₂ emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.
(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility thatcombusts only natural gas, wood, fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in § 60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.
(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

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

**Federally Enforceable State Operating Permit (FESOP) No: 127-39976-00003**

[Downloaded from the eCFR on May 13, 2013]

**Electronic Code of Federal Regulations**

**Title 40: Protection of Environment**

**PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

**Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984**

SOURCE: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

**§ 60.110b Applicability and designation of affected facility.**

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

1. Vessels at coke oven by-product plants.

2. Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

3. Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

4. Vessels with a design capacity less than or equal to 1,589.874 m³ used for petroleum or condensate stored, processed, or treated prior to custody transfer.

5. Vessels located at bulk gasoline plants.

6. Storage vessels located at gasoline service stations.

7. Vessels used to store beverage alcohol.

8. Vessels subject to subpart GGGG of 40 CFR part 63.

(e) **Alternative means of compliance**—(1) **Option to comply with part 65.** Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§ 60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of § 60.116b(c), (e), (f)(1), and (g) still apply.
Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) Part 60, subpart A. Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) Internal floating roof report. If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) External floating roof report. If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).


§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL’s stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL’s stored at the ambient temperature, as determined:
(1) In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see § 60.17); or

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17);

(4) Any other method approved by the Administrator.

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

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323-82 or 94 (incorporated by reference—see § 60.17).

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

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


§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all
times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer’s recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in § 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in § 60.113b(b)(4).
(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§ 60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in § 60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m³ which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in § 60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in § 60.114b of this subpart.

(c) Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia. This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.


§ 60.113b  Testing and procedures.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b.
(a) After installing the control equipment required to meet § 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in § 60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet § 60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.
(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of § 60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator
shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, § 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in § 60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.
(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in § 60.112b.

§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 61.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.
(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b   Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at
ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in § 60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see § 60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of § 60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.


§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§ 60.111b(f)(4), 60.114b, 60.116b(e)(3)(ii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).
Attachment C

Federally Enforceable State Operating Permit (FESOP) No: 127-39976-00003

[Downloaded from the eCFR on September 14, 2016]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

SOURCE: 76 FR 15591, Mar. 21, 2011, unless otherwise noted.

What This Subpart Covers

§63.11193 Am I subject to this subpart?
You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

§63.11194 What is the affected source of this subpart?
(a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source.

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.

(c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.

(d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in §63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.

(e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in §63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.

(f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the
exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

§63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.

(a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.

(b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.

(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers).

(d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.

(e) A gas-fired boiler as defined in this subpart.

(f) A hot water heater as defined in this subpart.

(g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.

(h) Temporary boilers as defined in this subpart.

(i) Residential boilers as defined in this subpart.

(j) Electric boilers as defined in this subpart.

(k) An electric utility steam generating unit (EGU) as defined in this subpart.


§63.11196 What are my compliance dates?

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you ceasecombusting solid waste, you must be in compliance with this subpart on the effective date of the waste-to-fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]


§63.11200  What are the subcategories of boilers?

The subcategories of boilers, as defined in §63.11237 are:

(a) Coal.

(b) Biomass.

(c) Oil.

(d) Seasonal boilers.

(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.

(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.

(g) Limited-use boilers.

[78 FR 7506, Feb. 1, 2013]

§63.11201  What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.
General Compliance Requirements

§63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.11224.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.
Initial Compliance Requirements

§63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to §63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (k) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(e) For new or reconstructed oil-fired boilers that commenced construction or reconstruction on or before September 14, 2016, that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a particulate matter (PM) emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce PM or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart until September 14, 2019, providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel. On and after September 14, 2019, you are subject to the PM emission limit in Table 1 of this subpart and you must demonstrate compliance with the PM emission limit in Table 1 no later than March 12, 2020.

(f) For new or reconstructed boilers that combust only ultra-low-sulfur liquid fuel as defined in §63.11237, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel.

(g) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(h) For affected boilers that ceased burning solid waste consistent with §63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(i) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJJ or the boiler becoming subject to subpart JJJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to §63.11225(g).

(j) For boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.
(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2011 or startup.

(3) Notification of such changes must be submitted according to §63.11225(g).

(k) For existing affected boilers that have not operated on solid fossil fuel, biomass, or liquid fuel between the effective date of the rule and the compliance date that is specified for your source in §63.11196, you must comply with the applicable provisions as specified in paragraphs (k)(1) through (3) of this section.

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel and according to the applicable provisions in §63.7(a)(2).

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in §63.11223, by following the procedures described in §63.11223(b) no later than 30 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel.

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in §63.11196.


§63.11211  How do I demonstrate initial compliance with the emission limits?

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to §63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to §63.11213 and Table 5 to this subpart, establishing operating limits according to §63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to §63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.11213 and Table 5 to this subpart.

(b) You must establish parameter operating limits according to paragraphs (b)(1) through (4) of this section.

(1) For a wet scrubber, you must establish the minimum scrubber liquid flow rate and minimum scrubber pressure drop as defined in §63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for PM and mercury emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum scrubber liquid flow rate and pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum total secondary electric power (secondary voltage and secondary current), as defined in §63.11237, as your operating limits during the three-run performance stack test.

(3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.11237, as your operating limit during the three-run performance stack test.

(4) The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.11224, and
that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to §63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

\[
P_{90} = \frac{\text{mean} 	imes t}{\text{SD}}
\]

Where:

\[
P_{90} = 90\text{th percentile confidence level mercury concentration, in pounds per million Btu.}
\]

\[
\text{mean} = \text{Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to } \S 63.11213, \text{ in units of pounds per million Btu.}
\]

\[
\text{SD} = \text{Standard deviation of the mercury concentration in the fuel samples analyzed according to } \S 63.11213, \text{ in units of pounds per million Btu.}
\]

\[
t = t \text{ distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.}
\]

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7508, Feb. 1, 2013]

§63.11212 What stack tests and procedures must I use for the performance tests?

(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c).

(b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart.

(c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in §63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.
§63.11213 What fuel analyses and procedures must I use for the performance tests?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.

(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

§63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to §63.11210(c) or (g), as applicable, and §63.11223(b). If you own or operate an existing coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11210(c) or (g), as applicable, and §63.11223(b). If you own or operate an existing biomass-fired boiler or existing oil-fired boiler, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and that the assessment is an accurate depiction of your facility at the time of the assessment or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

§63.11220 When must I conduct subsequent performance tests or fuel analyses?

(a) If your boiler has a heat input capacity of 10 million Btu per hour or greater, you must conduct all applicable performance (stack) tests according to §63.11212 on a triennial basis, except as specified in paragraphs (b) through (e) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test.

(b) For new or reconstructed boilers that commenced construction or reconstruction on or before September 14, 2016, when demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show
that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM until September 14, 2021, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in paragraphs (b)(1) through (4) of this section.

(1) A performance test for PM must be conducted by September 14, 2021.

(2) If your performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you may choose to conduct performance tests for PM every fifth year. Each such performance test must be conducted no more than 61 months after the previous performance test.

(3) If you intend to burn a new type of fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel type.

(4) If your performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests on a triennial basis as specified in paragraph (a) of this section.

(c) For new or reconstructed boilers that commenced construction or reconstruction after September 14, 2016, when demonstrating initial compliance with the PM emission limit, if your boiler’s performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you may choose to conduct performance tests for PM every fifth year, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in paragraphs (c)(1) through (3) of this section.

(1) Each such performance test must be conducted no more than 61 months after the previous performance test.

(2) If you intend to burn a new type of fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel type.

(3) If your performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests on a triennial basis as specified in paragraph (a) of this section.

(d) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to §63.11213 for each type of fuel burned as specified in paragraphs (d)(1) through (3) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of §63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

(1) For existing boilers and new or reconstructed boilers that commenced construction or reconstruction on or before September 14, 2016, when demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling until September 14, 2017, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in paragraphs (d)(1)(i) and (ii) of this section.

(i) Fuel analysis sampling for mercury must be conducted by September 14, 2017.

(ii) If your fuel analysis results show that the mercury constituents in the fuel or fuel mixture are equal to or less than half of the mercury emission limit, you may choose to conduct fuel analysis sampling for mercury every 12 months.

(2) For new or reconstructed boilers that commenced construction or reconstruction after September 14, 2016, when demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you may choose to conduct fuel analysis sampling for mercury every 12 months, but must continue to comply with all applicable operating limits and monitoring requirements.

(3) When demonstrating compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are greater than half of the mercury emission limit, you must conduct quarterly sampling.
(e) For existing affected boilers that have not operated on solid fossil fuel, biomass, or liquid fuel since the previous compliance demonstration and more than 3 years have passed since the previous compliance demonstration, you must complete your subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel.

[81 FR 63127, Sept. 14, 2016]

§63.11221 Is there a minimum amount of monitoring data I must obtain?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.11205(c).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data collected during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in §63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.


§63.11222 How do I demonstrate continuous compliance with the emission limits?

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period. If you have an applicable mercury emission limit, you must demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).
(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of §63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in §63.11225.

[76 FR 15591, Mar. 21, 2011, as amended at 81 FR 63127, Sept. 14, 2016]

§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's
recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.


§63.11224 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart, you must either install, operate, and maintain a CEMS for CO and oxygen according to the procedures in paragraphs (a)(1) through (6) of this section, or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in §63.11237, according to the manufacturer's recommendations and paragraphs (a)(7) and (d) of this section, as applicable, by the compliance date specified in §63.11196. Where a certified CO CEMS is used, the CO level shall be monitored at the outlet of the boiler, after any add-on controls or flue gas recirculation system and before release to the atmosphere. Boilers that use a CO CEMS are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in §63.11211(a) of this subpart. Oxygen monitors and oxygen trim systems must be installed to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location.

(1) Each CO CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, and each oxygen CEMS must be installed, operated, and maintained according to Performance Specification 3 at 40 CFR part 60, appendix B. Both the CO and oxygen CEMS must also be installed, operated, and maintained according to the site-specific monitoring plan developed according to paragraph (c) of this section.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8(e) and according to Performance Specifications 3 and 4, 4A, or 4B at 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) every 15 minutes. You must have CEMS data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2).

(5) You must calculate hourly averages, corrected to 3 percent oxygen, from each hour of CO CEMS data in parts per million CO concentrations and determine the 10-day rolling average of all recorded readings, except as provided in §63.11221(c). Calculate a 10-day rolling average from all of the hourly averages collected for the 10-day operating period using Equation 2 of this section.

\[ 10\text{-day average} = \frac{\sum_{i=1}^{n} H_{pi}}{n} \]  

Where:

\( H_{pi} = \) the hourly parameter value for hour \( i \)

\( n = \) the number of valid hourly parameter values collected over 10 boiler operating days

(6) For purposes of collecting CO data, you must operate the CO CEMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(7) You must operate the oxygen analyzer system at or above the minimum oxygen level that is established as the operating limit according to Table 6 to this subpart when firing the fuel or fuel mixture utilized during the most recent
CO performance stack test. Operation of oxygen trim systems to meet these requirements shall not be done in a manner which compromises furnace safety.

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section.

(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in §63.11221(c). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.
Where:

\[ Hpvi = \text{the hourly parameter value for hour } i \]

\[ n = \text{the number of valid hourly parameter values collected over 30 boiler operating days} \]

(3) For purposes of collecting data, you must operate the CPMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when CPMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(4) Record the results of each inspection, calibration, and validation check.

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in §63.11196.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in §63.11221(c).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see §63.14).
(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an audible or visual alarm system that will activate automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard or seen by plant operating personnel.

(7) For positive pressure fabric filter systems that do not duct all compartments or cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

(8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7510, Feb. 1, 2013]

§63.11225 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you own or operate a new boiler subject only to a requirement to conduct a biennial or 5-year tune-up or you must conduct a performance stack test. If you own or operate a new boiler subject to a requirement to conduct a tune-up, you are not required to prepare and submit a Notification of Compliance Status for the tune-up. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.

(ii) “This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler.”

(iii) “This facility has had an energy assessment performed according to §63.11214(c).”

(iv) For units that install bag leak detection systems: “This facility complies with the requirements in §63.11224(f).”
(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to the energy assessment requirement and/or a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(iii) "This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.
(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4, you must keep records documenting that the material is a listed non-waste under §241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. For each new oil-fired boiler that meets the requirements of §63.11210(e) or (f), you must keep records, on a monthly basis, of the type of fuel combusted.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.
(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)(1) Within 60 days after the date of completing each performance test (as defined in §63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (https://www3.epa.gov/ttn/chief/ert/ert_info.html) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in §63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (e)(2)(i) or (ii) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being submitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §63.13.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:
(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of gas-fired boiler, as defined in §63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.


§63.11226 [Reserved]

Other Requirements and Information

§63.11235 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§63.11236 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or an administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emission standard and work practice standards in §63.11223(a).

(2) Approval of alternative opacity emission standard under §63.6(h)(9).

(3) Approval of major change to test methods under §63.7(e)(2)(ii) and (f). A “major change to test method” is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” is defined in §63.90.
(5) Approval of major change to recordkeeping and reporting under §63.10(f). A “major change to recordkeeping/reporting” is defined in §63.90.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7513, Feb. 1, 2013]

§63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2 (the General Provisions), and in this section as follows:

10-day rolling average means the arithmetic mean of all valid hours of data from 10 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

30-day rolling average means the arithmetic mean of all valid hours of data from 30 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

Annual capacity factor means the ratio between the actual heat input to a boiler from the fuels burned during a calendar year and the potential heat input to the boiler had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

Annual heat input means the heat input for the 12 months preceding the compliance demonstration.

Bag leak detection system means a group of instruments that are capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biodiesel means a mono-alkyl ester derived from biomass and conforming to ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see §63.14).

Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sand dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

Biomass subcategory includes any boiler that burns any biomass and is not in the coal subcategory.

Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of Boiler.

Boiler system means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

Calendar year means the period between January 1 and December 31, inclusive, for a given year.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388 (incorporated by reference, see §63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of “coal” includes synthetic fuels derived from coal including, but not
limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

*Coal subcategory* includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

*Commercial boiler* means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

*Common stack* means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

*Daily block average* means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown and periods when the unit is not operating.

*Deviation* (1) Means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation.

*Distillate oil* means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §63.14) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §63.14), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751-11b (incorporated by reference, see §63.14).

*Dry scrubber* means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers are included in this definition. A dry scrubber is a dry control system.

*Dry scrubber* means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

*Electric boiler* means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

*Electric utility steam generating unit (EGU)* means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be “capable of combusting” fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2015.
Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

Energy assessment means the following for the emission units covered by this subpart:

1. The energy assessment for facilities with affected boilers with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.

2. The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.

3. The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year not to exceed 160 on-site technical labor hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

4. The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g., product X manufacturing area; product Y drying area; Building Z).

Energy management program means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility’s energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

Energy use system (1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

(i) Process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot water systems; building envelop; and lighting; or

(ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.

(2) Energy use systems are only those systems using energy clearly produced by affected boilers.

Equivalent means the following only as this term is used in Table 5 to this subpart:

1. An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.

2. An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.
(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. On the other hand, if metals analysis is done on an “as received” basis, a separate aliquot can be dried to determine moisture content and the mercury concentration mathematically adjusted to a dry basis.

(6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 to this subpart for the same purpose.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse. A fabric filter is a dry control system.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed boiler means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

Fluidized bed combustion means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

Fossil fuel means natural gas, oil, coal, and any form of solid, liquid, or gaseous fuel derived from such material.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

Gaseous fuels includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Heat input means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.
**Hourly average** means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

**Industrial boiler** means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

**Institutional boiler** means a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, and/or hot water.

**Limited-use boiler** means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

**Liquid fuel** includes, but is not limited to, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil meeting the specification in 40 CFR 279.11, liquid biofuels, biodiesel, and vegetable oil.

**Load fraction** means the actual heat input of a boiler divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5). For boilers that co-fire natural gas with a solid or liquid fuel, the load fraction is determined by the actual heat input of the solid or liquid fuel divided by heat input of the solid or liquid fuel fired during the performance test (e.g., if the performance test was conducted at 100 percent solid fuel firing, for 100 percent load firing 50 percent solid fuel and 50 percent natural gas, the load fraction is 0.5).

**Minimum activated carbon injection rate** means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

**Minimum oxygen level** means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

**Minimum scrubber liquid flow rate** means the lowest hourly average scrubber liquid flow rate (e.g., to the particulate matter scrubber) measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

**Minimum scrubber pressure drop** means the lowest hourly average scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

**Minimum sorbent injection rate** means:

1. The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits; or

2. For fluidized bed combustion, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

**Minimum total secondary electric power** means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

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

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (i.e., a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.

Oil subcategory includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not included in this definition. Periodic testing on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating load range. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller or draft controller.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

Performance testing means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

Qualified energy assessor means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:
(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vii) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Regulated gas stream means an offgas stream that is routed to a boiler for the purpose of achieving compliance with a standard under another subpart of this part or part 60, part 61, or part 65 of this chapter.

Residential boiler means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (e.g., university campus, military base, church grounds) or commercial/industrial facility (e.g., farm) used primarily to provide heat and/or hot water for:

(1) A dwelling containing four or fewer families, or

(2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.
Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396-10 (incorporated by reference, see §63.14(b)).

Responsible official means responsible official as defined in §70.2.

Seasonal boiler means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

Shutdown means the period in which cessation of operation of a boiler is initiated for any purpose. Shutdown begins when the boiler no longer supplies useful thermal energy (such as steam or hot water) for heating, cooling, or process purposes or generates electricity, or when no fuel is being fed to the boiler, whichever is earlier. Shutdown ends when the boiler no longer supplies useful thermal energy (such as steam or hot water) for heating, cooling, or process purposes or generates electricity, and no fuel is being combusted in the boiler.

Solid fossil fuel includes, but is not limited to, coal, coke, petroleum coke, and tire-derived fuel.

Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.

Startup means:

(1) Either the first-ever firing of fuel in a boiler for the purpose of supplying useful thermal energy (such as steam or hot water) for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the useful thermal energy (such as steam or hot water) from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or

(2) The period in which operation of a boiler is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler for the purpose of supplying useful thermal energy (such as steam or hot water) for heating, cooling or process purposes or producing electricity, or the firing of fuel in a boiler for any purpose after a shutdown event. Startup ends 4 hours after when the boiler supplies useful thermal energy (such as steam or hot water) for heating, cooling, or process purposes or generates electricity, whichever is earlier.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.

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

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

Tune-up means adjustments made to a boiler in accordance with the procedures outlined in §63.11223(b).
Ultra-low-sulfur liquid fuel means a distillate oil that has less than or equal to 15 parts per million (ppm) sulfur.

Useful thermal energy means energy (i.e., steam or hot water) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler.

Vegetable oil means oils extracted from vegetation.

Voluntary Consensus Standards (VCS) mean technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM, 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428-B2959, (800) 262-1373, http://www.astm.org), American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016-5990, (800) 843-2763, http://www.asme.org), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, http://www.iso.org/iso/home.htm), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, +61 2 9237 6171 http://www.standards.org.au), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, http://www.bsigroup.com), Canadian Standards Association (CSA, 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, http://www.csa.ca), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B-1000 Brussels, Belgium +32 2 550 08 11, http://www.cen.eu/cen), and German Engineering Standards (VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214-230, http://www.vdi.eu). The types of standards that are not considered VCS are standards developed by: the United States, e.g., California Air Resources Board (CARB) and Texas Commission on Environmental Quality (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. Government, e.g., Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

Waste heat boiler means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

Table 1 to Subpart JJJJJJ of Part 63—Emission Limits

As stated in §63.11201, you must comply with the following applicable emission limits:

<table>
<thead>
<tr>
<th>If your boiler is in this subcategory . . .</th>
<th>For the following pollutants . . .</th>
<th>You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New coal-fired boilers with heat input capacity of 30 million British thermal units per hour (MMBtu/hr) or greater that do not meet the definition of limited-use boiler</td>
<td>a. PM (Filterable) b. Mercury c. CO</td>
<td>3.0E-02 pounds/lb per million British thermal units (MMBtu) of heat input. 2.2E-05 lb per MMBtu of heat input. 420 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).</td>
</tr>
<tr>
<td>2. New coal-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of limited-use boiler</td>
<td>a. PM (Filterable) b. Mercury c. CO</td>
<td>4.2E-01 lb per MMBtu of heat input. 2.2E-05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).</td>
</tr>
<tr>
<td>3. New biomass-fired boilers with heat input capacity of 30 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler</td>
<td>PM (Filterable)</td>
<td>3.0E-02 lb per MMBtu of heat input.</td>
</tr>
<tr>
<td>4. New biomass-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler</td>
<td>PM (Filterable)</td>
<td>7.0E-02 lb per MMBtu of heat input.</td>
</tr>
<tr>
<td>5. New oil-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler</td>
<td>PM (Filterable)</td>
<td>3.0E-02 lb per MMBtu of heat input.</td>
</tr>
<tr>
<td>6. Existing coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of limited-use boiler</td>
<td>a. Mercury b. CO</td>
<td>2.2E-05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).</td>
</tr>
</tbody>
</table>


Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices

As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

<table>
<thead>
<tr>
<th>If your boiler is in this subcategory . . .</th>
<th>You must meet the following . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)</td>
<td>Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.</td>
</tr>
<tr>
<td>2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.</td>
</tr>
<tr>
<td>If your boiler is in this subcategory . . .</td>
<td>You must meet the following . . .</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio</td>
<td>Conduct a tune-up of the boiler biennially as specified in §63.11223.</td>
</tr>
<tr>
<td>4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.</td>
</tr>
<tr>
<td>5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio</td>
<td>Conduct a tune-up of the boiler biennially as specified in §63.11223.</td>
</tr>
<tr>
<td>6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.</td>
</tr>
<tr>
<td>7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio</td>
<td>Conduct a tune-up of the boiler biennially as specified in §63.11223.</td>
</tr>
<tr>
<td>8. Existing seasonal boilers</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>9. New seasonal boilers</td>
<td>Conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>10. Existing limited-use boilers</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>11. New limited-use boilers</td>
<td>Conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr</td>
<td>Conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up</td>
<td>Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
<tr>
<td>15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up</td>
<td>Conduct a tune-up of the boiler every 5 years as specified in §63.11223.</td>
</tr>
</tbody>
</table>
If your boiler is in this subcategory . . . You must meet the following . . .

16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers

Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least 1 year between January 1, 2008, and the compliance date specified in §63.11196 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237:

1. A visual inspection of the boiler system,
2. An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
3. An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,
4. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
5. A list of major energy conservation measures that are within the facility's control,
6. A list of the energy savings potential of the energy conservation measures identified, and
7. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.


Table 3 to Subpart JJJJJJ of Part 63—Operating Limits for Boilers With Emission Limits

As stated in §63.11201, you must comply with the applicable operating limits:

<table>
<thead>
<tr>
<th>If you demonstrate compliance with applicable emission limits using . . .</th>
<th>You must meet these operating limits except during periods of startup and shutdown . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fabric filter control</td>
<td>a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Install and operate a bag leak detection system according to §63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.</td>
</tr>
<tr>
<td>2. Electrostatic precipitator control</td>
<td>a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in §63.11237.</td>
</tr>
<tr>
<td>If you demonstrate compliance with applicable emission limits using . . .</td>
<td>You must meet these operating limits except during periods of startup and shutdown . . .</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3. Wet scrubber control</td>
<td>Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in §63.11237 and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in §63.11237.</td>
</tr>
<tr>
<td>4. Dry sorbent or activated carbon injection control</td>
<td>Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in §63.11237. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5).</td>
</tr>
<tr>
<td>5. Any other add-on air pollution control type.</td>
<td>This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).</td>
</tr>
<tr>
<td>6. Fuel analysis</td>
<td>Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to §63.11211(c) are less than the applicable emission limit for mercury.</td>
</tr>
<tr>
<td>7. Performance stack testing</td>
<td>For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.</td>
</tr>
<tr>
<td>8. Oxygen analyzer system</td>
<td>For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in §63.11224(a), maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in §63.11237. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7).</td>
</tr>
</tbody>
</table>

[78 FR 7519, Feb. 1, 2013]

Table 4 to Subpart JJJJJJ of Part 63—Performance (Stack) Testing Requirements

As stated in §63.11212, you must comply with the following requirements for performance (stack) test for affected sources:

<table>
<thead>
<tr>
<th>To conduct a performance test for the following pollutant. . .</th>
<th>You must. . .</th>
<th>Using. . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Particulate Matter</td>
<td>a. Select sampling ports location and the number of traverse points</td>
<td>Method 1 in appendix A-1 to part 60 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>b. Determine velocity and volumetric flow-rate of the stack gas</td>
<td>Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>c. Determine oxygen and carbon dioxide concentrations of the stack gas</td>
<td>Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), a or ANSI/ASME PTC 19.10-1981. a</td>
</tr>
<tr>
<td></td>
<td>d. Measure the moisture content of the stack gas</td>
<td>Method 4 in appendix A-3 to part 60 of this chapter.</td>
</tr>
</tbody>
</table>
To conduct a performance test for the following pollutant, you must:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>e. Measure the particulate matter emission concentration</td>
<td>Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.</td>
<td></td>
</tr>
<tr>
<td>f. Convert emissions concentration to lb/MBton emission rates</td>
<td>Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.</td>
<td></td>
</tr>
</tbody>
</table>

2. Mercury

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Select sampling port location and the number of traverse points</td>
<td>Method 1 in appendix A-1 to part 60 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>b. Determine velocity and volumetric flow-rate of the stack gas</td>
<td>Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>c. Determine oxygen and carbon dioxide concentrations of the stack gas</td>
<td>Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981.a</td>
<td></td>
</tr>
<tr>
<td>d. Measure the moisture content of the stack gas</td>
<td>Method 4 in appendix A-3 to part 60 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>e. Measure the mercury emission concentration</td>
<td>Method 29, 30A, or 30B in appendix A-8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02.a Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A.</td>
<td></td>
</tr>
<tr>
<td>f. Convert emissions concentration to lb/MBton emission rates</td>
<td>Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.</td>
<td></td>
</tr>
</tbody>
</table>

3. Carbon Monoxide

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Select the sampling port location and the number of traverse points</td>
<td>Method 1 in appendix A-1 to part 60 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>b. Determine oxygen and carbon dioxide concentrations of the stack gas</td>
<td>Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981.a</td>
<td></td>
</tr>
<tr>
<td>c. Measure the moisture content of the stack gas</td>
<td>Method 4 in appendix A-3 to part 60 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>d. Measure the carbon monoxide emission concentration</td>
<td>Method 10, 10A, or 10B in appendix A-4 to part 60 of this chapter or ASTM D6522-00 (Reapproved 2005) and a minimum 1 hour sampling time per run.</td>
<td></td>
</tr>
</tbody>
</table>

*aIncorporated by reference, see §63.14.

Table 5 to Subpart JJJJJJ of Part 63—Fuel Analysis Requirements

As stated in §63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:
To conduct a fuel analysis for the following pollutant . . . You must . . . Using . . .

1. Mercury
   a. Collect fuel samples
      Procedure in §63.11213(b) or ASTM D2234/D2234M\(^a\) (for coal) or ASTM D6323\(^a\) (for biomass) or equivalent.
   b. Compose fuel samples
      Procedure in §63.11213(b) or equivalent.
   c. Prepare composited fuel samples
      EPA SW-846-3050B\(^a\) (for solid samples) or EPA SW-846-3020A\(^a\) (for liquid samples) or ASTM D2013/D2013M\(^a\) (for coal) or ASTM D5198\(^a\) (for biomass) or equivalent.
   d. Determine heat content of the fuel type
      ASTM D5865\(^a\) (for coal) or ASTM E711\(^a\) (for biomass) or equivalent.
   e. Determine moisture content of the fuel type
      ASTM D3173\(^a\) or ASTM E871\(^a\) or equivalent.
   f. Measure mercury concentration in fuel sample
      ASTM D6722\(^a\) (for coal) or EPA SW-846-7471B\(^a\) (for solid samples) or EPA SW-846-7470A\(^a\) (for liquid samples) or equivalent.
   g. Convert concentrations into units of lb/MMBtu of heat content

\(^a\)Incorporated by reference, see §63.14.

Table 6 to Subpart JJJJJJ of Part 63—Establishing Operating Limits

As stated in §63.11211, you must comply with the following requirements for establishing operating limits:

<table>
<thead>
<tr>
<th>If you have an applicable emission limit for . . .</th>
<th>And your operating limits are based on . . .</th>
<th>You must . . .</th>
<th>Using . . .</th>
<th>According to the following requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PM or mercury</td>
<td>a. Wet scrubber operating parameters</td>
<td>Establish site-specific minimum scrubber pressure drop and minimum scrubber liquid flow rate operating limits according to §63.11211(b)</td>
<td>Data from the pressure drop and liquid flow rate monitors and the PM or mercury performance stack tests</td>
<td>(a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance stack tests;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(b) Determine the average pressure drop and liquid flow rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.</td>
</tr>
<tr>
<td></td>
<td>b. Electrostatic precipitator operating parameters</td>
<td>Establish a site-specific minimum total secondary electric power operating limit according to §63.11211(b)</td>
<td>Data from the secondary electric power monitors and the PM or mercury performance stack tests</td>
<td>(a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests;</td>
</tr>
<tr>
<td>If you have an applicable emission limit for . . .</td>
<td>And your operating limits are based on . . .</td>
<td>You must . . .</td>
<td>Using . . .</td>
<td>According to the following requirements</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>------------------------------------------</td>
</tr>
</tbody>
</table>

- **2. Mercury**
  - Dry sorbent or activated carbon injection rate operating parameters
  - Establish a site-specific minimum sorbent or activated carbon injection rate operating limit according to §63.11211(b)
  - Data from the sorbent or activated carbon injection rate monitors and the mercury performance stack tests
  - (b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
  - (a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests;
  - (c) When your unit operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction, as defined in §63.11237, to determine the required injection rate.

- **3. CO**
  - Oxygen
  - Establish a unit-specific limit for minimum oxygen level
  - Data from the oxygen analyzer system specified in §63.11224(a)
  - (a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests;
  - (b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.

- **4. Any pollutant for which compliance is demonstrated by a performance stack test**
  - Boiler operating load
  - Establish a unit-specific limit for maximum operating load according to §63.11212(c)
  - Data from the operating load monitors (fuel feed monitors or steam generation monitors)
  - (a) You must collect operating load data (fuel feed rate or steam generation data) every 15 minutes during the entire period of the performance test.
  - (b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
If you have an applicable emission limit for . . . And your operating limits are based on . . . You must . . . Using . . . According to the following requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Condition</th>
<th>Action</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you must meet the following operating limits . . .</td>
<td>You must demonstrate continuous compliance by . . .</td>
<td>(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.</td>
<td></td>
</tr>
<tr>
<td>1. Opacity</td>
<td>a. Collecting the opacity monitoring system data according to §63.11224(e) and §63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the opacity monitoring data to 6-minute averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining opacity to less than or equal to 10 percent (daily block average).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Fabric Filter Bag Leak Detection Operation</td>
<td>Installing and operating a bag leak detection system according to §63.11224(f) and operating the fabric filter such that the requirements in §63.11222(a)(4) are met.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Wet Scrubber Pressure Drop and Liquid Flow Rate</td>
<td>a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.11224 and 63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to §63.11211.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Dry Scrubber Sorbent or Activated Carbon Injection Rate</td>
<td>a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§63.11224 and 63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to §63.11211.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Electrostatic Precipitator Total Secondary Electric Power</td>
<td>a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§63.11224 and 63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to §63.11211.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Fuel Pollutant Content</td>
<td>a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.11213 as applicable; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Keeping monthly records of fuel use according to §§63.11222(a)(2) and 63.11225(b)(4).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 7 to Subpart JJJJJJ of Part 63—Demonstrating Continuous Compliance

As stated in §63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Condition</th>
<th>Action</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Opacity</td>
<td>a. Collecting the opacity monitoring system data according to §63.11224(e) and §63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the opacity monitoring data to 6-minute averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining opacity to less than or equal to 10 percent (daily block average).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Fabric Filter Bag Leak Detection Operation</td>
<td>Installing and operating a bag leak detection system according to §63.11224(f) and operating the fabric filter such that the requirements in §63.11222(a)(4) are met.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Wet Scrubber Pressure Drop and Liquid Flow Rate</td>
<td>a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.11224 and 63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to §63.11211.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Dry Scrubber Sorbent or Activated Carbon Injection Rate</td>
<td>a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§63.11224 and 63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to §63.11211.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Electrostatic Precipitator Total Secondary Electric Power</td>
<td>a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§63.11224 and 63.11221; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to §63.11211.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Fuel Pollutant Content</td>
<td>a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.11213 as applicable; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Keeping monthly records of fuel use according to §§63.11222(a)(2) and 63.11225(b)(4).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If you must meet the following operating limits . . .

<table>
<thead>
<tr>
<th>7. Oxygen content</th>
<th>You must demonstrate continuous compliance by . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Continuously monitoring the oxygen content of flue gas according to §63.11224 (This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7)); and</td>
<td></td>
</tr>
<tr>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
</tr>
<tr>
<td>c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. CO emissions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Continuously monitoring the CO concentration in the combustion exhaust according to §§63.11224 and 63.11221; and</td>
<td></td>
</tr>
<tr>
<td>b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and</td>
<td></td>
</tr>
<tr>
<td>c. Reducing the data from the hourly averages to 10-day rolling averages; and</td>
<td></td>
</tr>
<tr>
<td>d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Boiler operating load</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and</td>
<td></td>
</tr>
<tr>
<td>b. Reducing the data to 30-day rolling averages; and</td>
<td></td>
</tr>
<tr>
<td>c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to §63.11212(c) and Table 6 to this subpart.</td>
<td></td>
</tr>
</tbody>
</table>

[78 FR 7521, Feb. 1, 2013]

Table 8 to Subpart JJJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJJ

As stated in §63.11235, you must comply with the applicable General Provisions according to the following:

<table>
<thead>
<tr>
<th>General provisions cite</th>
<th>Subject</th>
<th>Does it apply?</th>
</tr>
</thead>
<tbody>
<tr>
<td>§63.1</td>
<td>Applicability</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.2</td>
<td>Definitions</td>
<td>Yes. Additional terms defined in §63.11237.</td>
</tr>
<tr>
<td>§63.3</td>
<td>Units and Abbreviations</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.4</td>
<td>Prohibited Activities and Circumvention</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.5</td>
<td>Preconstruction Review and Notification Requirements</td>
<td>No</td>
</tr>
<tr>
<td>§63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j)</td>
<td>Compliance with Standards and Maintenance Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.6(e)(1)(i)</td>
<td>General Duty to minimize emissions</td>
<td>No. See §63.11205 for general duty requirement.</td>
</tr>
<tr>
<td>§63.6(e)(1)(ii)</td>
<td>Requirement to correct malfunctions ASAP</td>
<td>No.</td>
</tr>
<tr>
<td>§63.6(e)(3)</td>
<td>SSM Plan</td>
<td>No.</td>
</tr>
<tr>
<td>§63.6(f)(1)</td>
<td>SSM exemption</td>
<td>No.</td>
</tr>
<tr>
<td>General provisions cite</td>
<td>Subject</td>
<td>Does it apply?</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------</td>
<td>----------------</td>
</tr>
<tr>
<td>§63.6(h)(1)</td>
<td>SSM exemption</td>
<td>No.</td>
</tr>
<tr>
<td>§63.6(h)(2) to (9)</td>
<td>Determining compliance with opacity emission standards</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h)</td>
<td>Performance Testing Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.7(e)(1)</td>
<td>Performance testing</td>
<td>No. See §63.11210.</td>
</tr>
<tr>
<td>§63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e), (f), and (g)</td>
<td>Monitoring Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(c)(1)(i)</td>
<td>General duty to minimize emissions and CMS operation</td>
<td>No.</td>
</tr>
<tr>
<td>§63.8(c)(1)(iii)</td>
<td>Requirement to develop SSM Plan for CMS</td>
<td>No.</td>
</tr>
<tr>
<td>§63.8(d)(3)</td>
<td>Written procedures for CMS</td>
<td>Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.</td>
</tr>
<tr>
<td>§63.9</td>
<td>Notification Requirements</td>
<td>Yes, excluding the information required in §63.9(h)(2)(i)(B), (D), (E) and (F). See §63.11225.</td>
</tr>
<tr>
<td>§63.10(a) and (b)(1)</td>
<td>Recordkeeping and Reporting Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(b)(2)(i)</td>
<td>Recordkeeping of occurrence and duration of startups or shutdowns</td>
<td>No.</td>
</tr>
<tr>
<td>§63.10(b)(2)(ii)</td>
<td>Recordkeeping of malfunctions</td>
<td>No. See §63.11225 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunctions.</td>
</tr>
<tr>
<td>§63.10(b)(2)(iii)</td>
<td>Maintenance records</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(b)(2)(iv) and (v)</td>
<td>Actions taken to minimize emissions during SSM</td>
<td>No.</td>
</tr>
<tr>
<td>§63.10(b)(2)(vi)</td>
<td>Recordkeeping for CMS malfunctions</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(b)(2)(vii) to (xiv)</td>
<td>Other CMS requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(b)(3)</td>
<td>Recordkeeping requirements for applicability determinations</td>
<td>No.</td>
</tr>
<tr>
<td>§63.10(c)(1) to (9)</td>
<td>Recordkeeping for sources with CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(c)(10)</td>
<td>Recording nature and cause of malfunctions</td>
<td>No. See §63.11225 for malfunction recordkeeping requirements.</td>
</tr>
<tr>
<td>§63.10(c)(11)</td>
<td>Recording corrective actions</td>
<td>No. See §63.11225 for malfunction recordkeeping requirements.</td>
</tr>
<tr>
<td>§63.10(c)(12) and (13)</td>
<td>Recordkeeping for sources with CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(c)(15)</td>
<td>Allows use of SSM plan</td>
<td>No.</td>
</tr>
<tr>
<td>General provisions cite</td>
<td>Subject</td>
<td>Does it apply?</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>§63.10(d)(1) and (2)</td>
<td>General reporting requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(d)(3)</td>
<td>Reporting opacity or visible emission observation results</td>
<td>No.</td>
</tr>
<tr>
<td>§63.10(d)(4)</td>
<td>Progress reports under an extension of compliance</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(d)(5)</td>
<td>SSM reports</td>
<td>No. See §63.11225 for malfunction reporting requirements.</td>
</tr>
<tr>
<td>§63.10(e)</td>
<td>Additional reporting requirements for sources with CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(f)</td>
<td>Waiver of recordkeeping or reporting requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.11</td>
<td>Control Device Requirements</td>
<td>No.</td>
</tr>
<tr>
<td>§63.12</td>
<td>State Authority and Delegation</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.13-63.16</td>
<td>Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9)</td>
<td>Reserved</td>
<td>No.</td>
</tr>
</tbody>
</table>

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7521, Feb. 1, 2013]
What This Subpart Covers

§63.6580  What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§63.6585  Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.
(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

§63.6590  What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) Affected source. An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) Existing stationary RICE.

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) New stationary RICE. (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) Reconstructed stationary RICE. (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.
(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) Stationary RICE subject to limited requirements. (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.


§63.6595 When do I have to comply with this subpart?

(a) Affected sources. (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) Area sources that become major sources. If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.
(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.


Emission and Operating Limitations

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.


§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[78 FR 6701, Jan. 30, 2013]

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.
(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may extend the requirements as stated in (d) until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart III instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.


§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.
(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.


Testing and Initial Compliance Requirements

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.
(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.


§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.


§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.
§63.6620  What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad \text{(Eq. 1)}$$

Where:

$C_i =$ concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

$C_o =$ concentration of CO, THC, or formaldehyde at the control device outlet, and

$R =$ percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO2 concentration is measured in lieu of oxygen concentration measurement, a CO2 correction factor is needed. Calculate the CO2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific $F_o$ value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209}{F_c} \quad \text{(Eq. 2)}$$

Where:
F₀ = Fuel factor based on the ratio of oxygen volume to the ultimate CO₂ volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

Fₐ = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm3/J (dscf/106 Btu).

Fₖ = Ratio of the volume of CO₂ produced to the gross calorific value of the fuel from Method 19, dsm3/J (dscf/106 Btu)

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent O₂, as follows:

\[ X_{CO₂} = \frac{0.209}{F₀} \quad (Eq. 3) \]

Where:

\( X_{CO₂} \) = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂—15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

\[ C_{adj} = C_d \frac{X_{CO₂}}{5.9} \quad (Eq. 4) \]

Where:

\( C_{adj} \) = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O₂.

\( C_d \) = Measured concentration of CO, THC, or formaldehyde, uncorrected.

\( X_{CO₂} \) = CO₂ correction factor, percent.

\( %CO₂ \) = Measured CO₂ concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.


§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O₂ or CO₂ according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR
part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO₂ concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.
(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.
(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.


§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.
(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O2 using one of the O2 measurement methods specified in Table 4 of this subpart. Measurements to determine O2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O2 emissions simultaneously at the inlet and outlet of the control device.


Continuous Compliance Requirements

§63.6635  How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§63.6640  How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:
(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O₂ emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.
(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the
engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.


Notifications, Reports, and Records

§63.6645  What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following:

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.


§63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.
(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official’s name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).
(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.


§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.
(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE:

1. An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

2. An existing stationary emergency RICE.

3. An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

1. An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

2. An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.


§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).


Other Requirements and Information

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a
site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Public Law 101-549, 104 Stat. 2399).
Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (e.g. biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).
(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

*Engine startup* means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gaseous fuel* means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

*Hazardous air pollutants (HAP)* means any air pollutants listed in or pursuant to section 112(b) of the CAA.

*Institutional emergency stationary RICE* means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

*ISO standard day conditions* means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Limited use stationary RICE* means any stationary RICE that operates less than 100 hours per year.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Liquid fuel* means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

*Major Source*, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;
(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NOX) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NOx, CO, and volatile organic compounds (VOC) into CO2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (i.e., remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.
Remote stationary RICE means stationary RICE meeting any of the following criteria:

1. Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

2. Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

   (i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

   (ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

3. Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NOx (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.
Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

<table>
<thead>
<tr>
<th>For each 4SRB stationary RICE</th>
<th>You must meet the following emission limitation, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or</td>
<td>Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.¹</td>
<td></td>
</tr>
<tr>
<td>b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O₂</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following operating limitation, except during periods of startup . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. existing, new and reconstructed 4SRB stationary RICE &gt;500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE &gt;500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent ( \text{O}_2 ) and using NSCR;</td>
<td>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.¹</td>
</tr>
<tr>
<td>2. existing, new and reconstructed 4SRB stationary RICE &gt;500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or</td>
<td>Comply with any operating limitations approved by the Administrator.</td>
</tr>
<tr>
<td>existing, new and reconstructed 4SRB stationary RICE &gt;500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent ( \text{O}_2 ) and not using NSCR.</td>
<td></td>
</tr>
</tbody>
</table>

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following emission limitation, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2SLB stationary RICE</td>
<td>a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent ( \text{O}_2 ). If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent ( \text{O}_2 ) until June 15, 2007</td>
<td>Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.¹</td>
</tr>
<tr>
<td>2. 4SLB stationary RICE</td>
<td>a. Reduce CO emissions by 93 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent ( \text{O}_2 )</td>
<td></td>
</tr>
</tbody>
</table>
For each . . .

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following emission limitation, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. CI stationary RICE</td>
<td>a. Reduce CO emissions by 70 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbv or less at 15 percent ( \text{O}_2 )</td>
<td></td>
</tr>
</tbody>
</table>

1Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following operating limitation, except during periods of startup . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.</td>
<td>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.¹</td>
</tr>
<tr>
<td>2. Existing CI stationary RICE &gt;500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst</td>
<td>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.¹</td>
</tr>
<tr>
<td>3. New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and</td>
<td>Comply with any operating limitations approved by the Administrator.</td>
</tr>
</tbody>
</table>

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.
For each . . . | You must meet the following operating limitation, except during periods of startup . . .
---|---
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.

1Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

| For each . . . | You must meet the following requirement, except during periods of startup . . . | During periods of startup you must . . . |
---|---|---|
1. Emergency stationary CI RICE and black start stationary CI RICE<sup>1</sup> | a. Change oil and filter every 500 hours of operation or annually, whichever comes first.<sup>2</sup>  
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;  
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.<sup>3</sup> | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.<sup>3</sup> |
2. Non-Emergency, non-black start stationary CI RICE <100 HP | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.<sup>2</sup>  
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;  
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.<sup>3</sup> |  |
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP | Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O<sub>2</sub>. |  |
<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following requirement, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Non-Emergency, non-black start CI stationary RICE 300&lt;(\text{HP})≤500</td>
<td>a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent (\text{O}_2); or (\text{b. Reduce CO emissions by 70 percent or more.})</td>
<td></td>
</tr>
<tr>
<td>5. Non-Emergency, non-black start stationary CI RICE &gt;500 HP</td>
<td>a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent (\text{O}_2); or (\text{b. Reduce CO emissions by 70 percent or more.})</td>
<td></td>
</tr>
</tbody>
</table>
| 6. Emergency stationary SI RICE and black start stationary SI RICE. \(^1\) | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; \(^2\)  
\n\(\text{b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;}\)  
\(\text{c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.}\) \(^3\) |                                         |
| 7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; \(^2\)  
\(\text{b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;}\)  
\(\text{c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.}\) \(^3\) |                                         |
| 8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP | a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; \(^2\)  
\(\text{b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;}\)  
\(\text{c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.}\) \(^3\)|                                         |
<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following requirement, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500</td>
<td>Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O2.</td>
<td></td>
</tr>
<tr>
<td>10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500</td>
<td>Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O2.</td>
<td></td>
</tr>
<tr>
<td>11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500</td>
<td>Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O2.</td>
<td></td>
</tr>
<tr>
<td>12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis</td>
<td>Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O2.</td>
<td></td>
</tr>
</tbody>
</table>

1. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

2. Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

3. Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]
Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following requirement, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
</table>
| 1. Non-Emergency, non-black start CI stationary RICE ≤300 HP | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; \(^1\)  
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;  
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. |
| 2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500 | a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O\(_2\); or  
b. Reduce CO emissions by 70 percent or more. | |
| 3. Non-Emergency, non-black start CI stationary RICE >500 HP | a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O\(_2\); or  
b. Reduce CO emissions by 70 percent or more. | |
| 4. Emergency stationary CI RICE and black start stationary CI RICE.\(^2\) | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; \(^1\)  
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and  
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. | |
For each . . . | You must meet the following requirement, except during periods of startup . . . | During periods of startup you must . . .
---|---|---
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.²

   a. Change oil and filter every 500 hours of operation or annually, whichever comes first;¹
   b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

6. Non-emergency, non-black start 2SLB stationary RICE

   a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;¹
   b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.

7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP

   a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;¹
   b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP

   a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;¹
   b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and
<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following requirement, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Non-emergency, non-black start 4SLB stationary RICE &gt;500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year</td>
<td>c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.</td>
<td>Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.</td>
</tr>
<tr>
<td>10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP</td>
<td>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;¹</td>
<td>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.</td>
</tr>
<tr>
<td>11. Non-emergency, non-black start 4SRB remote stationary RICE &gt;500 HP</td>
<td>a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;¹</td>
<td>b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.</td>
</tr>
<tr>
<td>12. Non-emergency, non-black start 4SRB stationary RICE &gt;500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year</td>
<td>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;¹</td>
<td>Install NSCR to reduce HAP emissions from the stationary RICE.</td>
</tr>
<tr>
<td>13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis</td>
<td>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;¹</td>
<td>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
</tr>
</tbody>
</table>
For each . . . | You must meet the following requirement, except during periods of startup . . . | During periods of startup you must . . .
---|---|---
c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

1Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

2If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

**Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests**

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New or reconstructed 2SLB stationary RICE &gt;500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE &gt;500 HP located at major sources</td>
<td>Reduce CO emissions and not using a CEMS</td>
<td>Conduct subsequent performance tests semiannually.¹</td>
</tr>
<tr>
<td>2. 4SRB stationary RICE ≥5,000 HP located at major sources</td>
<td>Reduce formaldehyde emissions</td>
<td>Conduct subsequent performance tests semiannually.¹</td>
</tr>
<tr>
<td>3. Stationary RICE &gt;500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources</td>
<td>Limit the concentration of formaldehyde in the stationary RICE exhaust</td>
<td>Conduct subsequent performance tests semiannually.¹</td>
</tr>
<tr>
<td>4. Existing non-emergency, non-black start CI stationary RICE &gt;500 HP that are not limited use stationary RICE</td>
<td>Limit or reduce CO emissions and not using a CEMS</td>
<td>Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.</td>
</tr>
<tr>
<td>5. Existing non-emergency, non-black start CI stationary RICE &gt;500 HP that are limited use stationary RICE</td>
<td>Limit or reduce CO emissions and not using a CEMS</td>
<td>Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.</td>
</tr>
</tbody>
</table>

¹After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]
Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You must . . .</th>
<th>Using . . .</th>
<th>According to the following requirements . . .</th>
</tr>
</thead>
</table>
| 1. 2SLB, 4SLB, and CI stationary RICE | a. reduce CO emissions | i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and | (1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)
(heated probe not necessary) | (a) For CO and O\textsubscript{2} measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4. |
| | | | (b) Measurements to determine O\textsubscript{2} must be made at the same time as the measurements for CO concentration. | |
| | | ii. Measure the O\textsubscript{2} at the inlet and outlet of the control device; and | | |
| | | (1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)
(heated probe not necessary) | |
| | | iii. Measure the CO at the inlet and the outlet of the control device | (1) ASTM D6522-00 (Reapproved 2005)
(heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4 | (c) The CO concentration must be at 15 percent O\textsubscript{2}, dry basis. |
<table>
<thead>
<tr>
<th>For each 4SRB stationary RICE</th>
<th>Complying with the requirement to . . .</th>
<th>You must . . .</th>
<th>Using . . .</th>
<th>According to the following requirements . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. reduce formaldehyde emissions</td>
<td>i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and</td>
<td>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)^a (heated probe not necessary)</td>
<td>(a) For formaldehyde, O₂, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Measure O₂ at the inlet and outlet of the control device; and</td>
<td>(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03^a</td>
<td>(a) Measurements to determine O₂ concentration must be made at the same time as the measurements for formaldehyde or THC concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. Measure moisture content at the inlet and outlet of the control device; and</td>
<td>(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03^a, provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130</td>
<td>(a) Formaldehyde concentration must be at 15 percent O₂, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device</td>
<td>(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7</td>
<td>(a) THC concentration must be at 15 percent O₂, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
</tbody>
</table>

^a Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
<table>
<thead>
<tr>
<th>For each</th>
<th>Complying with the requirement to</th>
<th>You must . . .</th>
<th>Using . . .</th>
<th>According to the following requirements . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Stationary RICE</td>
<td>a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust</td>
<td>i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and</td>
<td>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)(^a) (heated probe not necessary)</td>
<td>(a) For formaldehyde, CO, O(_2), and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (‘3-point long line’). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at ‘3-point long line’; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Determine the O(_2) concentration of the stationary RICE exhaust at the sampling port location; and</td>
<td>(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03(^a)</td>
<td>(a) Measurements to determine O(_2) concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and</td>
<td>(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03(^a), provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130</td>
<td>(a) Formaldehyde concentration must be at 15 percent O(_2), dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv. Measure formaldehyde at the exhaust of the stationary RICE; or</td>
<td>(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)(^c), Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03(^a)</td>
<td>(a) CO concentration must be at 15 percent O(_2), dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
</tbody>
</table>
You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

### Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You have demonstrated initial compliance if . . .</th>
</tr>
</thead>
</table>
| 1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Reduce CO emissions and using oxidation catalyst, and using a CPMS | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test. |
| 2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test. |
| 3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Reduce CO emissions and not using oxidation catalyst | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
iii. You have recorded the approved operating parameters (if any) during the initial performance test. |
<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You have demonstrated initial compliance if . . .</th>
</tr>
</thead>
</table>
| 4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Limit the concentration of CO, and not using oxidation catalyst  | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and  
ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and  
iii. You have recorded the approved operating parameters (if any) during the initial performance test. |
| 5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Reduce CO emissions, and using a CEMS                          | i. You have installed a CEMS to continuously monitor CO and either O₂ or CO₂ at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and  
ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and  
iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period. |
| 6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Limit the concentration of CO, and using a CEMS                  | i. You have installed a CEMS to continuously monitor CO and either O₂ or CO₂ at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and  
ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and  
iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period. |
| 7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP | a. Reduce formaldehyde emissions and using NSCR                     | i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and  

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You have demonstrated initial compliance if . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</td>
<td>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</td>
<td>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</td>
</tr>
<tr>
<td></td>
<td>a. Reduce formaldehyde emissions and not using NSCR</td>
<td>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</td>
</tr>
<tr>
<td>9. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</td>
<td>i. The average formaldehyde concentration, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</td>
</tr>
<tr>
<td>10. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</td>
<td>i. The average formaldehyde concentration, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</td>
</tr>
<tr>
<td>11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300&lt;HP≤500 located at an area source of HAP</td>
<td>a. Reduce CO emissions</td>
<td>i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.</td>
</tr>
</tbody>
</table>
For each . . . | Complying with the requirement to . . . | You have demonstrated initial compliance if . . .
---|---|---
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP | a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust | i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable. 

13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year | a. Install an oxidation catalyst | ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.

14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year | a. Install NSCR | ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . . | Complying with the requirement to . . . | You must demonstrate continuous compliance by . . .
---|---|---
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP | a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS | i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; and 

ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and 

iii. Reducing these data to 4-hour rolling averages; and
<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You must demonstrate continuous compliance by . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS</td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
</tr>
<tr>
<td>3. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency CI stationary RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP</td>
<td>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS</td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
<tr>
<td>4. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Reduce formaldehyde emissions and using NSCR</td>
<td>i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.</td>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
<td>You must demonstrate continuous compliance by . . .</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>5. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Reduce formaldehyde emissions and not using NSCR</td>
<td>i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
<tr>
<td>6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP</td>
<td>a. Reduce formaldehyde emissions</td>
<td>Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.a</td>
</tr>
<tr>
<td>7. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</td>
<td>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
</tr>
<tr>
<td>8. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</td>
<td>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
<td>You must demonstrate continuous compliance by . . .</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE &lt;100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that are remote stationary RICE</td>
<td>a. Work or Management practices</td>
<td>i. Operating and maintaining the stationary RICE according to the manufacturer’s emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</td>
</tr>
<tr>
<td>10. Existing stationary CI RICE &gt;500 HP that are not limited use stationary RICE</td>
<td>a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst</td>
<td>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
</tr>
<tr>
<td>11. Existing stationary CI RICE &gt;500 HP that are not limited use stationary RICE</td>
<td>a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst</td>
<td>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
<td>You must demonstrate continuous compliance by . . .</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
<tr>
<td>12. Existing limited use CI stationary RICE &gt;500 HP</td>
<td>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst</td>
<td>i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</td>
</tr>
<tr>
<td></td>
<td>ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and</td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td></td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</td>
</tr>
<tr>
<td></td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
<td>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
</tr>
<tr>
<td>13. Existing limited use CI stationary RICE &gt;500 HP</td>
<td>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst</td>
<td>i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</td>
</tr>
<tr>
<td></td>
<td>ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td></td>
<td>iii. Reducing these data to 4-hour rolling averages; and</td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
<td>You must demonstrate continuous compliance by . . .</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------</td>
<td>----------------------------------------------------</td>
</tr>
<tr>
<td>14. Existing non-emergency 4SLB stationary RICE &gt;500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year</td>
<td>a. Install an oxidation catalyst</td>
<td>i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.</td>
</tr>
<tr>
<td>15. Existing non-emergency 4SRB stationary RICE &gt;500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year</td>
<td>a. Install NSCR</td>
<td>i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.</td>
</tr>
</tbody>
</table>

*aAfter you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]
Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must submit a . . .</th>
<th>The report must contain . . .</th>
<th>You must submit the report . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE &gt;500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE &gt;300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</td>
<td>Compliance report</td>
<td>a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or</td>
<td>i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.</td>
</tr>
<tr>
<td></td>
<td>b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or</td>
<td></td>
<td>i. Semiannually according to the requirements in §63.6650(b).</td>
</tr>
<tr>
<td></td>
<td>c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).</td>
<td></td>
<td>i. Semiannually according to the requirements in §63.6650(b).</td>
</tr>
<tr>
<td>2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis</td>
<td>Report</td>
<td>a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and</td>
<td>i. Annually, according to the requirements in §63.6650.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and</td>
<td>i. See item 2.a.i.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Any problems or errors suspected with the meters.</td>
<td>i. See item 2.a.i.</td>
</tr>
<tr>
<td>3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year</td>
<td>Compliance report</td>
<td>a. The results of the annual compliance demonstration, if conducted during the reporting period.</td>
<td>i. Semiannually according to the requirements in §63.6650(b)(1)-(5).</td>
</tr>
</tbody>
</table>
For each . . .

You must submit a . . .

The report must contain . . .

You must submit the report . . .

4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in §63.6640(f)(4)(ii)

Report

a. The information in §63.6650(h)(1)

i. annually according to the requirements in §63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

<table>
<thead>
<tr>
<th>General provisions citation</th>
<th>Subject of citation</th>
<th>Applies to subpart</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>§63.1</td>
<td>General applicability of the General Provisions</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.2</td>
<td>Definitions</td>
<td>Yes</td>
<td>Additional terms defined in §63.6675.</td>
</tr>
<tr>
<td>§63.3</td>
<td>Units and abbreviations</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.4</td>
<td>Prohibited activities and circumvention</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.5</td>
<td>Construction and reconstruction</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(a)</td>
<td>Applicability</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(b)(1)-(4)</td>
<td>Compliance dates for new and reconstructed sources</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(b)(5)</td>
<td>Notification</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(b)(6)</td>
<td>[Reserved]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.6(b)(7)</td>
<td>Compliance dates for new and reconstructed area sources that become major sources</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(c)(1)-(2)</td>
<td>Compliance dates for existing sources</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(c)(3)-(4)</td>
<td>[Reserved]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.6(c)(5)</td>
<td>Compliance dates for existing area sources that become major sources</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(d)</td>
<td>[Reserved]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.6(e)</td>
<td>Operation and maintenance</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>§63.6(f)(1)</td>
<td>Applicability of standards</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>§63.6(f)(2)</td>
<td>Methods for determining compliance</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(f)(3)</td>
<td>Finding of compliance</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(g)(1)-(3)</td>
<td>Use of alternate standard</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.6(h)</td>
<td>Opacity and visible emission standards</td>
<td>No</td>
<td>Subpart ZZZZ does not contain opacity or visible emission standards.</td>
</tr>
<tr>
<td>§63.6(i)</td>
<td>Compliance extension procedures and criteria</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>General provisions citation</td>
<td>Subject of citation</td>
<td>Applies to subpart</td>
<td>Explanation</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------------------------------------------</td>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>§63.6(j)</td>
<td>Presidential compliance exemption</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(a)(1)-(2)</td>
<td>Performance test dates</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(a)(3)</td>
<td>CAA section 114 authority</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(b)(1)</td>
<td>Notification of performance test</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(b)(2)</td>
<td>Notification of rescheduling</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(c)</td>
<td>Quality assurance/test plan</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(d)</td>
<td>Testing facilities</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(e)(1)</td>
<td>Conditions for conducting performance tests</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§63.7(e)(2)</td>
<td>Conduct of performance tests and reduction of data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(e)(3)</td>
<td>Test run duration</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(e)(4)</td>
<td>Administrator may require other testing under section 114 of the CAA</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(f)</td>
<td>Alternative test method provisions</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(g)</td>
<td>Performance test data analysis, recordkeeping, and reporting</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(h)</td>
<td>Waiver of tests</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(a)(1)</td>
<td>Applicability of monitoring requirements</td>
<td>Yes</td>
<td>Subpart ZZZZ contains specific requirements for monitoring at §63.6625.</td>
</tr>
<tr>
<td>§63.8(a)(2)</td>
<td>Performance specifications</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(a)(3)</td>
<td>[Reserved]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.8(a)(4)</td>
<td>Monitoring for control devices</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§63.8(b)(1)</td>
<td>Monitoring</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(b)(2)-(3)</td>
<td>Multiple effluents and multiple monitoring systems</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)</td>
<td>Monitoring system operation and maintenance</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)(i)</td>
<td>Routine and predictable SSM</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)(ii)</td>
<td>SSM not in Startup Shutdown Malfunction Plan</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)(iii)</td>
<td>Compliance with operation and maintenance requirements</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(2)-(3)</td>
<td>Monitoring system installation</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(4)</td>
<td>Continuous monitoring system (CMS) requirements</td>
<td>Yes</td>
<td>Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).</td>
</tr>
<tr>
<td>§63.8(c)(5)</td>
<td>COMS minimum procedures</td>
<td>No</td>
<td>Subpart ZZZZ does not require COMS.</td>
</tr>
<tr>
<td>§63.8(c)(6)-(8)</td>
<td>CMS requirements</td>
<td>Yes</td>
<td>Except that subpart ZZZZ does not require COMS.</td>
</tr>
<tr>
<td>General provisions citation</td>
<td>Subject of citation</td>
<td>Applies to subpart</td>
<td>Explanation</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>§63.8(d)</td>
<td>CMS quality control</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(e)</td>
<td>CMS performance evaluation</td>
<td>Yes</td>
<td>Except for §63.8(e)(5)(ii), which applies to COMS.</td>
</tr>
<tr>
<td>§63.8(f)(1)-(5)</td>
<td>Alternative monitoring method</td>
<td>Yes</td>
<td>Except that §63.8(f)(4) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.8(f)(6)</td>
<td>Alternative to relative accuracy test</td>
<td>Yes</td>
<td>Except that §63.8(f)(6) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.8(g)</td>
<td>Data reduction</td>
<td>Yes</td>
<td>Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.</td>
</tr>
<tr>
<td>§63.9(a)</td>
<td>Applicability and State delegation of notification requirements</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.9(b)(1)-(5)</td>
<td>Initial notifications</td>
<td>Yes</td>
<td>Except that §63.9(b)(3) is reserved.</td>
</tr>
<tr>
<td>§63.9(c)</td>
<td>Request for compliance extension</td>
<td>Yes</td>
<td>Except that §63.9(c) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.9(d)</td>
<td>Notification of special compliance requirements for new sources</td>
<td>Yes</td>
<td>Except that §63.9(d) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.9(e)</td>
<td>Notification of performance test</td>
<td>Yes</td>
<td>Except that §63.9(e) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.9(f)</td>
<td>Notification of visible emission (VE)/opacity test</td>
<td>No</td>
<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
</tr>
<tr>
<td>§63.9(g)(1)</td>
<td>Notification of performance evaluation</td>
<td>Yes</td>
<td>Except that §63.9(g) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.9(g)(2)</td>
<td>Notification of use of COMS data</td>
<td>No</td>
<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
</tr>
<tr>
<td>§63.9(g)(3)</td>
<td>Notification that criterion for alternative to RATA is exceeded</td>
<td>Yes</td>
<td>If alternative is in use.</td>
</tr>
<tr>
<td>§63.9(h)(1)-(6)</td>
<td>Notification of compliance status</td>
<td>Yes</td>
<td>Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.</td>
</tr>
<tr>
<td>§63.9(i)</td>
<td>Adjustment of submittal deadlines</td>
<td>Yes</td>
<td>Except that §63.9(h) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.9(j)</td>
<td>Change in previous information</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>General provisions citation</td>
<td>Subject of citation</td>
<td>Applies to subpart</td>
<td>Explanation</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>§63.10(a)</td>
<td>Administrative provisions for recordkeeping/reporting</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(b)(1)</td>
<td>Record retention</td>
<td>Yes</td>
<td>Except that the most recent 2 years of data do not have to be retained on site.</td>
</tr>
<tr>
<td>§63.10(b)(2)(i)-(v)</td>
<td>Records related to SSM</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>§63.10(b)(2)(vi)-(xi)</td>
<td>Records when under waiver</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(b)(2)(xii)</td>
<td>Records when using alternative to RATA</td>
<td>Yes.</td>
<td>For CO standard if using RATA alternative.</td>
</tr>
<tr>
<td>§63.10(b)(2)(xiii)</td>
<td>Records of supporting documentation</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(b)(3)</td>
<td>Records of applicability determination</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(c)</td>
<td>Additional records for sources using CEMS</td>
<td>Yes.</td>
<td>Except that §63.10(c)(2)-(4) and (9) are reserved.</td>
</tr>
<tr>
<td>§63.10(d)(1)</td>
<td>General reporting requirements</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(d)(2)</td>
<td>Report of performance test results</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(d)(3)</td>
<td>Reporting opacity or VE observations</td>
<td>No.</td>
<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
</tr>
<tr>
<td>§63.10(d)(4)</td>
<td>Progress reports</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(d)(5)</td>
<td>Startup, shutdown, and malfunction reports</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>§63.10(e)(1) and (2)(i)</td>
<td>Additional CMS Reports</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(e)(2)(ii)</td>
<td>COMS-related report</td>
<td>No.</td>
<td>Subpart ZZZZ does not require COMS.</td>
</tr>
<tr>
<td>§63.10(e)(3)</td>
<td>Excess emission and parameter exceedances reports</td>
<td>Yes.</td>
<td>Except that §63.10(e)(3)(i) (C) is reserved.</td>
</tr>
<tr>
<td>§63.10(e)(4)</td>
<td>Reporting COMS data</td>
<td>No.</td>
<td>Subpart ZZZZ does not require COMS.</td>
</tr>
<tr>
<td>§63.10(f)</td>
<td>Waiver for recordkeeping/reporting</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.11</td>
<td>Flares</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>§63.12</td>
<td>State authority and delegations</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.13</td>
<td>Addresses</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.14</td>
<td>Incorporation by reference</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.15</td>
<td>Availability of information</td>
<td>Yes.</td>
<td></td>
</tr>
</tbody>
</table>

Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O₂) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O₂).

<table>
<thead>
<tr>
<th>Analyte</th>
<th>CAS No.</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide (CO)</td>
<td>630-08-0</td>
<td>Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.</td>
</tr>
<tr>
<td>Oxygen (O₂)</td>
<td>7782-44-7</td>
<td></td>
</tr>
</tbody>
</table>

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O₂, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O₂ gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 Measurement System. The total equipment required for the measurement of CO and O₂ concentrations. The measurement system consists of the following major subsystems:
3.1.1 **Data Recorder.** A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 **Electrochemical (EC) Cell.** A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 **Interference Gas Scrubber.** A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 **Moisture Removal System.** Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 **Sample Interface.** The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 **Nominal Range.** The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 **Calibration Gas.** A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 **Zero Calibration Error.** The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 **Up-Scale Calibration Error.** The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 **Interference Check.** A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 **Repeatability Check.** A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 **Sample Flow Rate.** The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 **Sampling Run.** A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O2 and moisture in the electrolyte reserve and provides a mechanism to degas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 **Sampling Day.** A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 **Pre-Sampling Calibration/Post-Sampling Calibration Check.** The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.
3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO₂ are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O₂ concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O₂; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.
6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O₂. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O₂) is acceptable for calibration of the O₂ cell. If needed, any lower percentage O₂ calibration gas must be a mixture of O₂ in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O₂ Calibration Gas Concentration.

Select an O₂ gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O₂. When the average exhaust gas O₂ readings are above 6 percent, you may use dry ambient air (20.9 percent O₂) for the up-scale O₂ calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO₂).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the "sample conditioning phase" once per minute until constant readings are obtained. Then begin the "measurement data phase" and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the "measurement data phase" readings to calculate the average stack gas CO and O₂ concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ±10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ±3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)
10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O₂ and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ±3 percent of the up-scale gas value or ±1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ±0.3 percent O₂ for the O₂ channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the "measurement data phase" readings from the reported standard gas value must be less than or equal to ±5 percent or ±1 ppm for CO or ±0.5 percent O₂, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single "measurement data phase" reading must be less than or equal to ±2 percent or ±1 ppm for CO or ±0.5 percent O₂, whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O₂ concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the "measurement data phase".

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the "measurement data phase". The maximum allowable deviation from the mean for each of the individual readings is ±2 percent, or ±1 ppm,
whichver is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ±2 percent or ±1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO2 interference response should be less than or equal to ±5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ±3 percent or ±1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References


Table 1: Appendix A—Sampling Run Data.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Engine I.D.</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Run Type:</th>
<th>(X) Pre-Sample Calibration</th>
<th>Stack Gas Sample</th>
<th>Post-Sample Cal. Check</th>
<th>Repeatability Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run #</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Gas</td>
<td>O₂</td>
<td>CO</td>
<td>O₂</td>
<td>CO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Cond. Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Measurement Data Phase

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Mean

Refresh Phase

[78 FR 6721, Jan. 30, 2013]
Source Description and Location

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>AOC, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location:</td>
<td>2552 Industrial Drive, Valparaiso, Indiana 46383</td>
</tr>
<tr>
<td>County:</td>
<td>Porter (Washington Township)</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2821 (Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers)</td>
</tr>
<tr>
<td>Permit Renewal No.:</td>
<td>F127-39976-00003</td>
</tr>
<tr>
<td>Permit Reviewer:</td>
<td>Mena Mekhail</td>
</tr>
</tbody>
</table>

On May 11, 2018, AOC, LLC submitted an application to the Office of Air Quality (OAQ) requesting to renew its operating permit. OAQ has reviewed the operating permit renewal application from AOC, LLC relating to the operation of a stationary polyester and acrylic resin source. AOC, LLC was issued its second FESOP Renewal (F127-25003-00003) on February 12, 2009.

Existing Approvals

The source was issued FESOP Renewal No. F127-25003-00003 on February 12, 2009. The source has since received the following approval:

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Permit Number</th>
<th>Issuance Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FESOP AA</td>
<td>127-30894-00003</td>
<td>October 27, 2011</td>
</tr>
<tr>
<td>FESOP AA</td>
<td>127-36700-00003</td>
<td>February 23, 2016</td>
</tr>
<tr>
<td>FESOP AA</td>
<td>127-39180-00003</td>
<td>November 08, 2017</td>
</tr>
</tbody>
</table>

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1977, with a rated heat capacity of 25 million British thermal units per hour (MMBtu/hour);

[Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]

(b) One (1) hot oil heater burning natural gas and using #2 fuel oil as a back-up fuel, constructed in 1973, with a rated heat capacity of 18 MMBtu per hour;

(c) One (1) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1990, with a rated heat capacity of 12.5 MMBtu per hour.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected facility.]
[Under 40 CFR 63, Subpart JJJJJJ, this unit is considered an affected facility.]
(d) Two (2) reactors, identified as reactor No. 1 and No. 2, constructed in 1973 and 1985, respectively, with a maximum capacity of 8,000 and 9,000 gallons, respectively, using the following for VOC control:

(1) One (1) natural gas-fired thermal oxidizer, using No. 2 fuel oil-fired as a back-up fuel, constructed in 1977 with a rated heat capacity of 8 MMBtu per hour, and used to control the two (2) reactors, exhausting to a stack.

(e) One (1) process styrene emission control system consisting of two (2) activated carbon units in series with continuous styrene emission monitoring, controlling items (f), (g), (h), and (i), and constructed in 1998;

(f) Two (2) thinning tanks, identified as thinning tank No. 1 and No. 2, constructed in 1973 and 1985, respectively, both storing polyester resin, with a maximum capacity of 16,100 and 17,700 gallons, respectively, and both with VOC emissions controlled by the process styrene emission control system described in (e);

(g) Seven (7) mix tanks, identified as mix tank No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 7 constructed in 1973, 1973, 1979, 1996, 1999, 1999, and permitted in 2016, respectively, all storing polyester resin, with a maximum capacity of 6,000, 15,000, 15,000, 800, 6,000, 6,000, and 6,000 gallons, respectively, controlled by the process styrene emission control system described in (e);

(h) One (1) styrene flush tank used to hold and capture styrene and used to flush pipes and process vessels between product runs, venting to the process styrene emission control system described in (e);

(i) One (1) drum off station and vent, constructed in 1985, which transfers finished products to drums and totes for shipment, with a maximum throughput of 6,015 tons per year, and with VOC emissions controlled by the process styrene emission control system described in (e);

(j) Two storage tanks styrene emission control systems consisting of one (1) activated carbon unit each. The storage tanks listed below vent through one of the systems: storage tanks No. 2, 3, 6, 8, and 9 vent through the east styrene emission control system; and storage tanks No. 12, 13, 14, 19, 20, 21, and 23 vent through the west styrene emission control system.

(1) One (1) tank storing resin, identified as storage tank 2, constructed in 1973, with a maximum capacity of 16,000 gallons;

(2) Two (2) tanks storing resin, identified as storage tank 3 and 6, both constructed in 1973, each with a maximum capacity of 30,000 gallons;

(3) Two (2) tanks storing resin, identified as storage tanks 8 and 9, both constructed in 1975, each with a maximum capacity of 105,000 gallons;

(4) Three (3) tanks storing resin, identified as storage tanks 12, 13, and 14, constructed in 1979, 1981 and 1981, respective, each with a maximum capacity of 50,000 gallons;

(5) One (1) tank storing styrene, identified as tank 19, constructed in 1995, with a maximum capacity of 69,000 gallons;

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(6) Two (2) storage tanks for resin, identified as storage tanks 20 and 21, both constructed in 1997, each with a maximum capacity of 30,000 gallons; and
(7) One (1) resin storage tank, identified as storage tank 23, permitted in 2017, with a maximum capacity of 32,500 gallons.

(8) One (1) pneumatic conveying system (IPA unloading), constructed in 1991, with a maximum throughput of 10,000,000 pounds per year, and with particulate emissions controlled by a bag filter (isophthalic unloading system);

(9) One (1) bulk isophthalic acid handling system, constructed in 1983, with a maximum throughput of 10,000,000 pounds per year;

(10) Thirteen (13) unloading/loading stations with fugitive VOC and HAP emissions:

(1) One (1) unloading/loading station, identified as Backpad, constructed in 1990, and relocated/modified in 1999, with a maximum throughput of 2,000,000 pounds of glycol per year;

(2) One (1) unloading/loading station, identified as Portable pump, constructed in 1983, with a maximum throughput of 33,000,000 pounds per year;

(3) One (1) unloading/loading station, identified as Railsiding, constructed in 1978, with a maximum throughput of 73,000,000 pounds of maleic anhydride/dicyclopentadiene per year;

(4) One (1) unloading/loading station, identified as Railsiding, constructed in 1997, with a maximum throughput of 73,000,000 pounds of styrene per year;

(5) One (1) unloading/loading station, identified as Railsiding, constructed in 1999, with a maximum throughput of 73,000,000 pounds of polyester resin per year;

(6) One (1) unloading/loading station, identified as Ethylene Glycol/Methyl Propanediol, constructed in 1984, with a maximum throughput of 29,200,000 pounds per year;

(7) One (1) unloading/loading station, identified as Phthalic Anhydride, constructed in 1987, with a maximum throughput of 14,600,000 pounds per year;

(8) One (1) unloading/loading station, identified as Diethylene Glycol/Propylene Glycol, constructed in 1984, with a maximum throughput of 29,200,000 pounds per year;

(9) One (1) unloading/loading station, identified as 1,3 Butylene Glycol at P4, constructed in 1989;

(10) One (1) unloading/loading station, identified as Flammable Unloading of Polyester Resin, constructed in 1984, with a maximum throughput of 43,800,000 pounds per year;

(11) One (1) unloading/loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of 65,000,000 pounds per year;

(12) One (1) unloading/loading station, identified as Tanker bays 3 and 4, constructed in 1984, with a maximum throughput of 65,000,000 pounds per year; and
(13) One (1) unloading/loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of 65,000,000 pounds per year.

### Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

(a) One (1) Resin Transfer Molding (RTM) facility for closed molding, constructed in 2003, using a maximum of 43.83 pounds per hour of polyester resin, and 15.70 pounds per hour of fiberglass, for the production of test molds including flow test, small boats, small trays, and multiple insert tooling, equipped with vent hoods identified as J291.

### Insignificant Activities

The source also consists of the following insignificant activities:

(a) Emission units with PM and PM10 emissions less than five (5) tons per year, SO2, NOx, and VOC emissions less than ten (10) tons per year, CO emissions less than twenty-five (25) tons per year, and lead emissions less than two-tenths (0.2) tons per year;

(1) One (1) tank storing phthalic anhydride, identified as storage tank 1, constructed in 1973, with a maximum capacity of 16,000 gallons;

(2) One (1) tank storing maleic anhydride, identified as storage tank 16, constructed in 1986, with a maximum capacity of 40,000 gallons;

[Under 40 CFR 60, Subpart Kb, this unit is considered an affected facility.]

(3) One (1) tank storing DCPD, identified as storage tank 4, constructed in 1973, with a maximum capacity of 30,000 gallons and controlled by an activated carbon conservation vent;

(4) Five (5) tanks storing glycol, identified as storage tank 5, 10, 11, 17, and 18, constructed in 1974, 1976, 1975, 1976 and 1977, respectively. Tanks 5, 10, 17 and 18 have a maximum capacity of 30,000 gallons each, and Tank 11 has a maximum capacity of 31,400 gallons.

(5) One (1) 6,000 gallon distillate hold tank and one (1) 500 gallon aqueous ammonium storage tank used to hold and neutralize process wastewater prior to incineration;

(6) One (1) tank storing mixed glycols and monomer, identified as storage tank 7, approved for construction in 2011, with a maximum capacity of 25,000 gallons;

(7) One (1) 3,200 gallon glycol boil tank;

(8) Piping fugitives;

(9) Inhibitor room;

(10) One (1) IPA surge vent, and one (1) maintenance building vent;

(11) Two (2) fume hoods;

(12) Acrylic bead blower exhaust;
(13) Waste oil tank vent;
(14) SMC Machine (R & D); and
(15) Talc charging blower exhaust, with voluntary baghouse.

(b) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons:
(1) Two (2) diesel storage tanks, each with a maximum capacity of 250 gallons.

(c) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;

(d) Diesel generators not exceeding 1600 horsepower;
(1) One (1) diesel-fired emergency generator for boilers, identified as GT600, installed in October 2002, with a rating of 1592 Hp;
[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]
(2) One (1) diesel-fired emergency (backup) generator for the process, identified as LT600, installed in December 1985, with a rating of 154 Hp;
[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(e) Natural gas-fired combustion source with heat input equal to or less than ten million (10,000,000) British thermal units per hour;
(1) Eight (8) furnaces, with a total rated heat capacity of 1.7 million British thermal units per hour (MMBtu/hour).

(f) Noncontact cooling tower systems with either of the following:
(1) Forced and induced draft cooling tower system not regulated under a NESHAP.

(g) Stationary fire pumps:
(1) One(1) diesel-fired emergency fire pump, identified as LT600, installed in September 1984, with a rating of 190Hp;
[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(h) Vacuum pump, air compressor, chiller heater, monorail crane, high sheer mixer, and glass cutter.

(i) Research and development activities with the primary purpose to test more efficient production processes, test methods for preventing or reducing adverse environmental impacts, or conduct research and development into new processes and products:
(1) One (1) Development and Testing Pultrusion Unit with styrene monomer resin, with a maximum capacity of 180 fiberglass parts per hour, using one (1) cyclone vacuum unit with a HEPA filter and carbon adsorption unit for control, exhausting to two (2) stacks (J-280 and J-281)
(j) Emissions from a laboratory as defined in 326 IAC 2-7-1(21)(G), including seven (7) lab vents from the Process Control Lab and the Quality Assurance Lab.

(k) Three (3) parts washers, one with a tank capacity of fifty (50) gallons, and two (2) with tank capacity of thirty-five (35) gallons each.

**Enforcement Issue**

There are no enforcement actions pending.

**Emission Calculations**

See Appendix A of this document for detailed emission calculations.

**County Attainment Status**

The source is located in Porter County (Washington Township).

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Cannot be classified for the area bounded on the north by Lake Michigan; on the west by the Lake County and Porter County line; on the south by I-80 and I-90; and on the east by the LaPorte County and Porter County line. The remainder of Porter County is better than national standards.</td>
</tr>
<tr>
<td>CO</td>
<td>Unclassifiable or attainment effective November 15, 1990.</td>
</tr>
<tr>
<td>O₃</td>
<td>Serious nonattainment effective September 23, 2019, for the 2008 8-hour ozone standard.¹</td>
</tr>
<tr>
<td>PM₂.⁵</td>
<td>Unclassifiable effective April 15, 2015, for the 2012 annual PM₂.⁵ standard.</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Unclassifiable effective November 15, 1990.</td>
</tr>
<tr>
<td>NO₂</td>
<td>Unclassifiable or attainment effective January 29, 2012, for the 2010 NO₂ standard.</td>
</tr>
<tr>
<td>Pb</td>
<td>Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.</td>
</tr>
</tbody>
</table>

¹Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area, including Porter County, for the 1-hour standard which was revoked effective June 15, 2005. The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Porter County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3 for the 1-hour standard.

(a) **Ozone Standards**

U.S. EPA, in the Federal Register Notice 84 FR 44238 dated August 23, 2019, designated Porter County as serious nonattainment for the 2008 8-hour ozone standard effective September 23, 2019. An emergency rulemaking for 326 IAC 1-4 is in process to adopt the U.S. EPA’s serious nonattainment designation for Lake and Porter County. The OAQ will rely on the serious nonattainment designation under 40 CFR 81.315 until the emergency rulemaking for 326 IAC 1-4 is effective. Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Therefore, VOC and NOx emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(b) **PM₂.⁵**

Porter County has been classified as attainment for PM₂.⁵. Therefore, direct PM₂.⁵, SO₂, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
(c) Other Criteria Pollutants
Porter County has been classified as attainment or unclassifiable in Indiana for all the other
criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for
Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as a glass fiber processing plant it is considered one (1) of the twenty-eight
(28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-
1(22)(B). Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset,
and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70
Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled
that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for
the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014,
the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting
decisions in light of the Supreme Court’s decision. U.S. EPA’s guidance states that U.S. EPA will no
longer require PSD or Title V permits for sources “previously classified as ‘Major’ based solely on
greenhouse gas emissions.”

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC
2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted
under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is
invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG
emissions to determine operating permit applicability or PSD applicability to a source or modification.
**Unrestricted Potential Emissions**

This table reflects the unrestricted potential emissions of the source.

<table>
<thead>
<tr>
<th>Unrestricted Potential Emissions (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$^1$</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Total PTE of Entire Source Including Fugitives*</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
</tr>
</tbody>
</table>

1Under the Part 70 Permit program (40 CFR 70), PM$_{10}$ and PM$_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."

2PM$_{2.5}$ listed is direct PM$_{2.5}$.

3Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

(a) The unrestricted potential to emit (as defined in 326 IAC 2-7-1(29)) of SO$_2$ is greater than 100 tons per year, and the unrestricted potential to emit VOC is greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their SO$_2$ emissions to less than Title V levels, therefore the source will be issued a FESOP.

(b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of all other criteria pollutants are less than 100 tons per year.

(c) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the source will be issued FESOP Renewal because the source will limit HAP emissions to less than the Title V major source threshold levels. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) subject to the provisions of 326 IAC 2-7.

**Potential to Emit After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this FESOP renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

<table>
<thead>
<tr>
<th>Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$^1$</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Total PTE of Entire Source Including Fugitives*</td>
</tr>
</tbody>
</table>
Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

The source opted to take limit(s) in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable to this source and to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA). See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-8 (FESOP), 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset), for more information regarding the limit(s).

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of one hundred (100) tons per year or more and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment regulated pollutant is emitted at a rate of 50 tons per year or more.

(c) This source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability

Federal rule applicability for this source has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) The requirements of the New Source Performance Standard for Small Industrial - Commercial - Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, are not included in the permit for the natural gas/#2 fuel oil-fired boilers with rated heat capacities of 25 MMBtu per hour and 18 MMBtu per hour. Construction of these units commenced prior to June 9, 1989.

(b) The natural gas/#2 fuel oil-fired boiler with a rated heat capacity of 12.5 MMBtu per hour is subject to the New Source Performance Standard for Small Industrial - Commercial - Institutional Steam Generating Units (40 CFR 60, Subpart Dc), which is incorporated by reference as 326 IAC 12. The boiler, constructed in 1990, has a rated heat capacity greater than 10 MMBtu per hour and less than 100 MMBtu per hour.
The emission unit is subject to the following portions of Subpart Dc:

1. 40 CFR 60.40c(a), (b), (c), (d)
2. 40 CFR 60.41c
3. 40 CFR 60.42c(d)
4. 40 CFR 60.42c(g), (h), (i)
5. 40 CFR 60.44c(a), (b), (c), (e), (g), (h), (j)
6. 40 CFR 60.46c(d)
7. 40 CFR 60.48c(a), (b), (d), (e), (f), (g), (i), (j)

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the boilers except as otherwise specified in 40 CFR 60, Subpart Dc.

(c) Mix Tank No. 7 is not subject to the New Source Performance Standards for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (40 CFR 60, Subpart Kb) and 326 IAC 12, because the mix tank does not store Volatile Organic Liquids. The mix tank stores polyester resin.

(d) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After July 23, 1984, 40 CFR 60, Subpart Kb, are not included for the following tanks:

<table>
<thead>
<tr>
<th>Tank</th>
<th>Reason Subpart Kb is Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Tanks 1, 3, 4 and 6</td>
<td>Constructed in 1973, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tank 7</td>
<td>Capacity less than 151 m3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.</td>
</tr>
<tr>
<td>Storage Tank 12</td>
<td>Constructed in 1979, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tanks 13 and 14</td>
<td>Constructed in 1981, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tanks 8, 9 and 11</td>
<td>Constructed in 1975, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tank 2</td>
<td>Constructed in 1973, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tank 5</td>
<td>Constructed in 1974, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tanks 10 and 17</td>
<td>Constructed in 1976, before the applicability date of the rule</td>
</tr>
<tr>
<td>Storage Tank 18</td>
<td>Constructed in 1977, before the applicability date of the rule</td>
</tr>
<tr>
<td>Distillate hold tank and ammonium storage tank</td>
<td>Capacity less than 75 cubic meters</td>
</tr>
</tbody>
</table>

(e) The requirements of the New Source Performance Standard for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry, 40 CFR 60, Subpart DDD, are not included in the permit. The source is a manufacturer of polyester and acrylic resin.

(f) The storage tanks identified as 16, 19, 20, 21 and 23 are subject to the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR 60, Subpart Kb), which is incorporated by reference as 326 IAC 12. The tanks were constructed after July 23, 1984 and store volatile organic liquids.

1. 40 CFR 60.110b
2. 40 CFR 60.111b
3. 40 CFR 60.116(a)
4. 40 CFR 60.116(b)
5. 40 CFR 60.116(d)

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the storage tanks identified above except as otherwise specified in 40 CFR 60, Subpart Kb.
(g) The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII), which is incorporated by reference as 326 IAC 12, are not included in the permit for the diesel-fired emergency generators and diesel-fired emergency fire pump, because these units were constructed before July 11, 2005.

(h) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ and 326 IAC 12, are not included in the permit for the diesel-fired emergency generators and diesel-fired emergency fire pump, because the units are not spark ignition engines.

(i) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(j) The two (2) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1977 and 1990, is an existing source since they commenced construction on or before June 4, 2010, are subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, and is located at, or is part of, an area source of hazardous air pollutants (HAP). This is a Title I change. These requirements were not included in previous operating permits.

The two (2) natural gas-fired boiler, using #2 fuel oil as a back-up fuel, constructed in 1977 and 1990, are subject to the following portions of Subpart JJJJJJ.

(1) 40 CFR 63.11193
(2) 40 CFR 63.11194(a)(1), (b)
(3) 40 CFR 63.11196(a)
(4) 40 CFR 63.11200
(5) 40 CFR 63.11201(b), (d)
(6) 40 CFR 63.11205(a)
(7) 40 CFR 63.11210(b), (c), (j)
(8) 40 CFR 63.11214(c)
(9) 40 CFR 63.11220(a)
(10) 40 CFR 63.11221
(11) 40 CFR 63.11223(a), (b)
(12) 40 CFR 63.11225
(13) 40 CFR 63.11235
(14) 40 CFR 63.11236
(15) 40 CFR 63.11237
(16) Table 2 (item 4)
(17) Table 8

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the three (3) boilers identified as B-1, and B-2 except as otherwise specified in 40 CFR 63, Subpart (letter).

(k) The diesel-fired emergency generators and diesel-fired emergency fire pump are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) and 326 IAC 20-82, because the diesel-fired emergency generators and diesel-fired emergency fire pump, which are considered a stationary reciprocating internal combustion engine, was constructed before June 12, 2006.
(1) One (1) diesel-fired emergency generator for boilers, identified as GT600, installed in October 2002, with a rating of 1592 Hp;

[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(2) One (1) diesel-fired emergency (backup) generator for the process, identified as LT600, installed in December 1985, with a rating of 154 Hp;

[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

(3) One (1) diesel-fired emergency fire pump, identified as LT600, installed in September 1984, with a rating of 190 Hp;

[Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.]

These emission units are subject to the following portions of Subpart ZZZZ:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (c), (d)
(3) 40 CFR 63.6590(a)(1)(iii)
(4) 40 CFR 63.6595(a), (c)
(5) 40 CFR 63.6603(a)
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e), (f), (h), (i)
(8) 40 CFR 63.6640(a), (b), (e), (f)(1), (f)(2)(i), and (f)(4)
(9) 40 CFR 63.6645(a)(2)
(10) 40 CFR 63.6650(a)-(c), (h)
(11) 40 CFR 63.6655(a), (d)-(f)
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2d to Subpart ZZZZ of Part 63
(17) Table 6 to Subpart ZZZZ of Part 63
(18) Table 7 to Subpart ZZZZ of Part 63
(19) Table 8 to Subpart ZZZZ of Part 63

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the unit except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

Based on this evaluation, this source is subject to 40 CFR 63, Subpart ZZZZ. On May 4, 2016, the U.S. Court of Appeals for the D.C. Circuit issued a mandate vacating paragraphs 40 CFR 63.6640(f)(2)(ii) - (iii) of NESHAP Subpart ZZZZ. Therefore, these paragraphs no longer have any legal effect and any engine that is operated for purposes specified in these paragraphs becomes a non-emergency engine and must comply with all applicable requirements for a non-emergency engine.

For additional information, please refer to the USEPA’s Guidance Memo:

Since the federal rule has not been updated to remove these vacated requirements, the text below shows the vacated language as strikethrough text. At this time, IDEM is not making any changes to the permit’s attachment due to this vacatur. However, the permit will not reference the vacated requirements, as applicable.
40 CFR 63.6640(f)(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(l) The requirements of the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, 40 CFR 63, Subpart VVVVV (6V), are not included for this proposed administrative amendment, because the CMPU (Chemical Manufacturing Process Unit) does not use as feedstocks, generates as byproducts, or produces as products any of the hazardous air pollutants (HAP) listed in Table 1, 40 CFR 63, Subpart VVVVV(6V).

(m) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 63, 326 IAC 14, and 326 IAC 20) included in the permit.

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability - Entire Source

State rule applicability for this source has been reviewed as follows:

326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset)

PSD and Emission Offset applicability is discussed under the Potential to Emit After Issuance section of this document.

PSD Minor Source Limits

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following:

(a) The combined usage of No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal
oxidizer shall be limited to 2500 kilogallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) \( \text{SO}_2 \) emissions from No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall not exceed 71 lbs of \( \text{SO}_2 \) per kilogallon of #2 fuel oil.

(c) Sulfur content shall not exceed five tenths percent (0.5%) when using distillate oil (including #2 fuel oil).

(d) \( \text{NO}_x \) emissions from No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall not exceed 20 lbs of \( \text{NO}_x \) per kilogallon.

Compliance with the above limit, combined with the potential to emit \( \text{SO}_2 \) from other emission units at the source, shall limit the \( \text{SO}_2 \) from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

**EO Minor Source Limits**

In order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

(a) The raw material input to the two (2) reactors shall be limited to less than 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. VOC content from the two (2) reactors shall not exceed 20% VOC, during vapor phase. VOC content from the two (2) reactors shall not exceed 15% VOC, during liquid phase. Yield loss from the two (2) reactors shall not exceed 15% VOC. Vapor loss from the two (2) reactors shall not exceed 12%. Distillate loss from the two (2) reactors shall not exceed 95%. The source shall use the thermal oxidizer with an efficiency of 99.75% in order to comply with this limit.

(b) The styrene monomer resin production for the thinning tanks shall be limited to less than 94,365 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. VOC and HAPs emissions from the monomer resin production for the thinning tanks shall not exceed 0.00081 lb/ton.

(c) The styrene monomer resin production for the blend tanks and flush tanks shall be limited to less than 94,365 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. VOC and HAPs emissions from the monomer resin production for the blend tanks and flush tanks shall not exceed 0.00081 lb/ton.

(d) The drum off vent throughput shall be limited to less than 6,015 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. VOC emissions from the drum off vent shall not exceed 0.09 lb/ton and HAPs emissions shall not exceed 0.032 lb/ton.

(e) The styrene monomer resin production for the storage tanks shall be limited to less than 155,935 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. VOC emissions from styrene monomer resin production shall not exceed 0.014 lb/ton. HAPs emissions from styrene monomer resin production shall not exceed 0.0065 lb/ton. The source will use an activated carbon conservation vent with an overall efficiency of 90.25% in order to comply with this limit.
(f) The styrene monomer resin usage for the development and testing pultrusion unit shall be limited to less than 1578.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Styrene content from the styrene monomer resin shall not exceed 35% styrene. Styrene emitted from the styrene monomer resin shall not exceed 4%. The minimum overall VOC control efficiency of the carbon adsorption unit shall be 90%.

Compliance with the above limit, combined with the potential to emit VOC from other emission units at the source, shall limit the source-wide total potential to emit of VOC to less than 25 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permits) and 326 IAC 8-1-6 not applicable.

Compliance with this limit, shall limit the potential to emit of HAP less than 10 tons of any individual HAP, and less than 25 tons of any combination of HAPs, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of this source will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is located Porter County, it has actual emissions of NOx and VOC of less than twenty-five (25) tons per year, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8-4 (FESOP) and 326 IAC 20 (Hazardous Air Pollutants)
FESOP applicability is discussed under the Potential to Emit After Issuance section of this document.

FESOP SO₂ Limit(s)
Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), not applicable, the Permittee shall comply with the following:

(a) The combined usage of No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall be limited to 2500 kilogallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) SO₂ emissions from No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall not exceed 71 lbs of SO₂ per kilogallon of #2 fuel oil.

(c) Sulfur content shall not exceed five tenths percent (0.5%) when using distillate oil (including #2 fuel oil).

(d) NOₓ emissions from No. 2 fuel oil in the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, the 12.5 MMBtu per hour boiler, and the 8 MMBtu per hour thermal oxidizer shall not exceed 20 lbs of NOₓ per kilogallon.

Compliance with the above limit, combined with the potential to emit SO₂ from other emission units at the source, shall limit the SO₂ from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.
FESOP/EO VOC Limit(s)

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

(a) The raw material input to the two (2) reactors shall be limited to less than 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) VOC content from the two (2) reactors shall not exceed 20% VOC, during vapor phase.

(c) VOC content from the two (2) reactors shall not exceed 15% VOC, during liquid phase.

(d) Yield loss from the two (2) reactors shall not exceed 15% VOC.

(e) Vapor loss from the two (2) reactors shall not exceed 12%.

(f) Distillate loss from the two (2) reactors shall not exceed 95%.

(g) The source shall use the thermal oxidizer with an efficiency of 99.75% in order to comply with this limit.

Compliance with the above limit, combined with the potential to emit VOC from other emission units at the source, shall limit the source-wide total potential to emit of VOC to less than 50 tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 2-7 (Part 70 Permits) not applicable.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1).

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

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source is not subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions of less than twenty-five (25) tons per year.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in Porter County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

State Rule Applicability – Individual Facilities

State rule applicability has been reviewed as follows:

Reactors

326 IAC 8-1-6 (New Facilities General Reduction Requirements)
(a) Reactor No. 1 constructed in 1973 is not subject to 326 IAC 8-1-6 because it was constructed prior to 1980, the applicability date for this rule.

(b) Prior to this application, the unlimited potential to emit VOC from the reactor was 1068.75 tons per year, which is greater than twenty-five (25) tons per year. In addition, the reactor was constructed after the applicability date of January 1, 1980 and is not subject to any other...
provision of 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56. As a result, reactor No. 2 should have been subject to the requirements of 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities). A BACT analysis is new being added as part of this renewal. The unlimited potential to emit VOC from the reactor is still 1068.75 tons per year.

According to the BACT analysis contained in Appendix B of this TSD, IDEM, OAQ has determined that the following requirements represent BACT for the Reactor No. 2:

1. The VOC emissions from the Reactor, identified as Reactor No. 2, shall be controlled by a thermal oxidizer.

2. The overall control efficiency, including capture and destruction efficiency, shall be at least 99.7%, or the VOC outlet concentration shall not exceed 20 ppmv at 100% capture.

326 IAC 8-6 (Organic Solvent Emission Limitations)
The reactors, constructed in 1973 and 1985, were not constructed after October 7, 1974 and prior to January 1, 1980, the applicability dates for this rule, and do not have a potential to emit greater than 100 tons of VOC per year. Therefore, the reactors are not subject to 326 IAC 8-6.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)
The reactors are limited to less than 25 tons of VOC per year. Therefore, the reactors are not subject to 326 IAC 8-7.

**Boilers**

326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(b), for indirect heating facilities existing and in operation on, or received permit to construct, prior to September 21, 1983 and located in Porter County are subject to the requirements of 326 IAC 6-2-2.

The particulate matter emissions (Pt) shall be limited by the following equation:

\[ Pt = \frac{0.87}{Q^{0.16}} \]

Where:

- \( Pt \) = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).
- \( Q \) = Total source maximum operating capacity rating in 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.
### Indirect Heating Units Which Began
Began Operation After June 8, 1972 and Before September 21, 1983

<table>
<thead>
<tr>
<th>Facility</th>
<th>Construction Date (Removal Date)</th>
<th>Operating Capacity (MMBtu/hr)</th>
<th>Q (MMBtu/hr)</th>
<th>Calculated Pt (lb/MMBtu)</th>
<th>Particulate Limitation, (Pt) (lb/MMBtu)</th>
<th>PM PTE based on AP-42 (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler (18 million British thermal units)</td>
<td>1973</td>
<td>18</td>
<td>18</td>
<td>0.55</td>
<td>0.55</td>
<td>NG 0.002 FO 0.014</td>
</tr>
<tr>
<td>Boiler (25 million British thermal units)</td>
<td>1977</td>
<td>25</td>
<td>43</td>
<td>0.48</td>
<td>0.48</td>
<td>NG 0.002 FO 0.014</td>
</tr>
</tbody>
</table>

Where: \( Q = \) Sum of the maximum operating capacity rating (MMBtu/hr) of the new unit(s) and all units located at the source on the date the new unit(s) was constructed.

Note: Emission units shown in strikethrough were subsequently removed from the source. The effect of removing these units on "Q" is shown in the year the boiler was removed.

The potential particulate emissions from the 18 MMBtu per hour boiler constructed in 1973 is 0.014 lb/MMBtu when burning No. 2 fuel oil (worst-case fuel). This boiler is able to comply with this limit.

The potential particulate emissions from the 25 MMBtu per hour boiler constructed in 1977 is 0.014 when burning No. 2 fuel oil (worst-case fuel) lb/MMBtu. This boiler is able to comply with this limit.

### 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

\[
Pt = \frac{1.09}{Q^{0.26}}
\]

Where:

- \( Pt = \) Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).
- \( Q = \) Total source maximum operating capacity rating in 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.
Indirect Heating Units Which
Began Operation After September 21, 1983

<table>
<thead>
<tr>
<th>Facility</th>
<th>Construction Date (Removal Date)</th>
<th>Operating Capacity (MMBtu/hr)</th>
<th>Q (MMBtu/hr)</th>
<th>Calculated Pt (lb/MMBtu)</th>
<th>Particulate Limitation (Pt) (lb/MMBtu)</th>
<th>PM PTE based on AP-42 (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units Operating Prior to 9/21/1983</td>
<td>43</td>
<td>--</td>
<td>--</td>
<td>0.38</td>
<td>0.38</td>
<td>NG 0.002 FO 0.014</td>
</tr>
<tr>
<td>Boiler 3 (12.5 million British thermal units)</td>
<td>1990</td>
<td>12.5</td>
<td>55.5</td>
<td>0.38</td>
<td>0.38</td>
<td>0.002 FO 0.014</td>
</tr>
</tbody>
</table>

Where: \( Q = \) includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed.

Note: Emission units shown in strikethrough were subsequently removed from the source. The effect of removing these units on "Q" is shown in the year the boiler was removed.

The potential particulate emissions from the 12.5 MMBtu per hour boiler constructed in 1990 is 0.014 lb/MMBtu when burning No. 2 fuel oil (worst-case fuel). This boiler is able to comply with this limit.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The emission units are subject to 326 IAC 7-1.1 because these units have a potential to emit greater than or equal to twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide. Pursuant to 326 IAC 7-1.1 (SO\(_2\) Emissions Limitations), the SO\(_2\) emissions from the 25 MMBtu per hour boiler, the 18 MMBtu per hour hot oil heater, and the 12.5 MMBtu per hour boiler shall each not exceed five tenths (0.5) pound per MMBtu heat input when using distillate oil (including #2 fuel oil). Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

Storage Tanks

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
(a) Each storage Tank is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each storage tank is less than twenty-five (25) tons per year.

326 IAC 8-4-3 (Petroleum liquid storage facilities)
(a) Storage tank 1, 2, 3, 4, 5, 6, 7, 10, 11, 17, 18, 20, 21, 23, distillate hold tank and glycol boil tank at this source are not subject to the requirements of 326 IAC 8-4-3, since the storage capacity of each tank is less than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons).
(b) Storage tank 8, 9, 12, 13, 14 and 19 at this source are not subject to the requirements of 326 IAC 8-4-3, since the units do not store any petroleum liquid.
(c) Two (2) thinning tanks, identified as thinning tank No. 1 and No. 2, both storing polyester resin, are not subject to the requirements of 326 IAC 8-4-3, since the units do not store any petroleum liquid.
(d) Seven (7) mix tanks, identified as mix tank No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 7, all storing polyester resin, are not subject to the requirements of 326 IAC 8-4-3, since the units do not store any petroleum liquid.
(e) One (1) styrene flush tank used to hold and capture styrene and used to flush pipes and process vessels between product runs, is not subject to the requirements of 326 IAC 8-4-3, since this unit does not store any petroleum liquid.

326 IAC 8-9-1 (Volatile Organic Liquid Storage Vessels)
(a) Storage tank 1, 4, 5, 7, 10, 11, 17, 18, the distillate hold tank, and the ammonium storage tank are subject to 326 IAC 8-9 because the tanks store volatile organic liquid and are in Porter County. Pursuant to 326 IAC 8-9-1(b), because their capacity is less than thirty-nine thousand (39,000) gallons, the storage tanks are only subject to the reporting and record keeping provisions of 326 IAC 8-9-6(a) and 326 IAC 8-9-6(b).

(b) Styrene storage tank 2, 3, 6, 8, 9, 12, 13 and 14 are subject to 326 IAC 8-9 because the tanks store volatile organic liquid and are located in Porter County. Pursuant to 326 IAC 8-9-1(b), because their capacity is less than thirty-nine thousand (39,000) gallons, the storage tanks are only subject to the reporting and record keeping provisions of 326 IAC 8-9-6(a) and 326 IAC 8-9-6(b).

(c) Pursuant to 326 IAC 8-9-2(8), the resin storage tanks 7, 16, 19, 20, 21 and 23 are not subject to 326 IAC 8-9 because they are subject to 40 CFR 60, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984).

(d) One (1) styrene flush tank used to hold and capture styrene and used to flush pipes and process vessels between product runs, is subject to 326 IAC 8-9 because the tanks store volatile organic liquid and are located in Porter County. Pursuant to 326 IAC 8-9-1(b), because their capacity is less than thirty-nine thousand (39,000) gallons, the storage tanks are only subject to the reporting and record keeping provisions of 326 IAC 8-9-6(a) and 326 IAC 8-9-6(b).

Unloading/loading Stations

326 IAC 8-1-6 (New Facilities General Reduction Requirements)
Each unloading/loading station is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each unloading/loading station is less than twenty-five (25) tons per year.

Development and Testing Pultrusion Unit, Pneumatic Conveying System and Bulk Isophthalic Acid Handling System

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The particulate from the pneumatic conveying system and bulk isophthalic acid handling system shall be limited by the following:

<table>
<thead>
<tr>
<th>Process</th>
<th>Process Weight Rate (ton/hr)</th>
<th>Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic conveying system (IPA unloading)</td>
<td>0.57</td>
<td>2.80</td>
</tr>
<tr>
<td>Bulk isophthalic acid handling system</td>
<td>0.57</td>
<td>2.80</td>
</tr>
</tbody>
</table>

*The emission units can comply with these limits without the use of a control device.

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

\[ E = 4.10 \ P^{0.67} \]

where \( E \) = rate of emission in pounds per hour and \( P \) = process weight rate in tons per hour
When the process weight is less than 100 pounds per hour, the particulate emissions shall not exceed 0.551 pound per hour.

The potential particulate emissions from the development and testing pultrusion unit are less than 0.551 pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), the development and testing pultrusion unit is exempt from 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes).

**Parts Washers**

**326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)**

Even though, these parts washers were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because each has unlimited VOC potential emissions less than twenty-five (25) tons per year.

**326 IAC 8-3-2 (Cold cleaner degreaser control equipment and operating requirements)**

The degreasing operations are subject to this rule because these operations are cold cleaning operations using solvents containing VOC. The requirements of 326 IAC 8-3-2 apply to degreasing operations pursuant 326 IAC 8-3-1(c)(2)(A)(ii) because these degreasing operations were constructed after July 1, 1990 and are without remote solvent reservoirs. The Permittee shall comply with the 326 IAC 8-3-2 requirements for these degreasing operations.

**326 IAC 8-3-8 (Material requirements for cold cleaner degreasers)**

The degreasing operations are subject to the provisions of 326 IAC 8-3-8 pursuant to 326 IAC 8-3-1(c)(3)(B), because this source is a user of solvents for use in cold cleaning degreasers and the solvent is not intended to be used to clean electronic components. The source does not sell solvents, therefore, the requirements of 326 IAC 8-3-8(b)(1) and 326 IAC 8-3-8(c)(1) do not apply to the degreasing operations. The Permittee shall comply with the 326 IAC 8-3-8(b)(2), (c)(2) and (d) requirements for the degreasing operations.

**Diesel-fired emergency generators & Diesel-fired emergency Fire Pump**

**326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)**

The diesel-fired emergency generators and diesel-fired emergency fire pump are not subject to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating) because, pursuant to 326 IAC 1-2-19, each emission unit does not meet the definition of an indirect heating unit.

**326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)**

Each unit is exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.

**326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)**

This source is not subject to 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations) because the potential to emit sulfur dioxide from each unit is less than twenty-five (25) tons per year and ten (10) pounds per hour.

**326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)**

The diesel-fired emergency generators and diesel-fired emergency fire pump are not subject to the requirements of 326 IAC 8-1-6, since each has potential VOC emissions less than twenty-two and seven-tenths (22.7) megagrams (twenty-five (25) tons) per year.

**326 IAC 9-1-1 (Carbon Monoxide Emission Limits)**

The diesel-fired emergency generators and diesel-fired emergency fire pump are not subject to 326 IAC 9-1-1, because there are no applicable emission limits for the source under 326 IAC 9-1-2.
Permits issued under 326 IAC 2-8 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

(a) The Compliance Determination Requirements applicable to this source are as follows:

1. The two (2) reactors controlled by the thermal oxidizer have applicable compliance determination conditions as specified below:
   - A continuous monitoring system shall be calibrated, maintained and operated on the thermal oxidizer for measuring operating temperature. The output of this system shall be recorded, and that temperature shall be greater than or equal to the temperature used to demonstrate compliance during the most recent stack test.
   - The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer is in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in the most recent compliant stack test.

2. The thinning tanks, blend tanks, styrene flush tank, and drum off station and vent have applicable compliance monitoring conditions as specified below:
   - Activated carbon canisters shall be used at all times to control styrene emissions. Emission concentrations for each carbon unit shall be measured weekly. When styrene concentrations are in excess of 50 parts per million (ppm) a stand-by set of carbon canisters shall be placed into service and the spent carbon canisters shall be removed, regenerated, and placed into stand-by service.

3. The storage tanks have applicable compliance monitoring conditions as specified below:
   - An activated carbon canister shall be used at all times to control styrene emissions. Emission concentrations for each activated carbon unit shall be measured weekly. When styrene concentrations are in excess of 50 parts per million (ppm) a stand-by set of carbon canisters shall be placed into service and the spent carbon canisters shall be removed, regenerated, and placed into stand-by service.

4. The pneumatic conveying system has applicable compliance monitoring conditions as specified below:
(a) Once per day visible emissions notations of the stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. 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. 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. 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

(b) The Permittee shall record the pressure drop across the multi-compartment baghouses used in conjunction with the pneumatic conveying system at least once per day when the pneumatic conveying system is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

Testing Requirements:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Timeframe for Testing</th>
<th>Pollutant</th>
<th>Frequency of Testing</th>
<th>Limit or Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two (2) Reactors</td>
<td>Thermal Oxidizer</td>
<td>Within 5 years of the last valid compliant stack test</td>
<td>VOC</td>
<td>Once every 5 years</td>
<td>99.75% Overall Efficiency</td>
</tr>
</tbody>
</table>

A summary of the compliance monitoring requirements are as follows:

<table>
<thead>
<tr>
<th>Control Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duct and Fan Amperage</td>
<td>Daily</td>
<td>Normal Range Established by Stack Test</td>
<td>Response Steps</td>
</tr>
<tr>
<td>Temperature</td>
<td>Continuously</td>
<td>Normal Range Established by Stack Test</td>
<td>Response Steps</td>
</tr>
<tr>
<td>Styrene Concentrations</td>
<td>Weekly</td>
<td>Styrene Concentrations &gt; 50 ppm</td>
<td>Response Steps</td>
</tr>
<tr>
<td>Styrene Concentrations</td>
<td>Weekly</td>
<td>Styrene Concentrations &gt; 50 ppm</td>
<td>Response Steps</td>
</tr>
</tbody>
</table>
These monitoring conditions are necessary because the thermal oxidizer and carbon adsorption units for the reactors, process tanks and storage tanks must operate properly to ensure compliance with 326 IAC 2-3 (Emission Offset).

### Proposed Changes

As part of this permit approval, the permit may contain new or different permit conditions and some conditions from previously issued permits/approvals may have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes.

The following changes were made to conditions contained previously issued permits/approvals (these changes may include Title I changes):

1. Based on the reclassification of Lake and Porter Counties to serious nonattainment for the 2008 ozone standard, changes to the language in Section C - Overall Source Limit of the permit are required pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.
2. Section D of the permit has been revised and modified to match current and updated model language.
3. 326 IAC 8-1-6 BACT Analysis has been added for the reactor No. 2 in D.2.
4. FESOP limits has been modified in conditions D.1.1, D.1.2, D.1.3, D.1.4, D.1.5 and discrepancies between the calculations and permit has been corrected for clarification.
5. Section D.7 has been added to the permit as a requirement for the parts washers for clarification.

### Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on May 11, 2018.

The operation of this stationary polyester and acrylic resin source shall be subject to the conditions of the attached proposed FESOP Renewal No. 127-39967-00003.

The staff recommends to the Commissioner that the FESOP Renewal be approved.

### IDEM Contact

(a) If you have any questions regarding this permit, please contact Mena Mekhail, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 234-7434 or (800) 451-6027, and ask for Mena Mekhail or (317) 234-7434.

(b) A copy of the findings is available on the Internet at: [http://www.in.gov/ai/appfiles/idem-caats/](http://www.in.gov/ai/appfiles/idem-caats/)

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: [http://www.in.gov/idem/airquality/2356.htm](http://www.in.gov/idem/airquality/2356.htm); and the Citizens' Guide to IDEM on the Internet at: [http://www.in.gov/idem/6900.htm](http://www.in.gov/idem/6900.htm).
Appendix A: Emissions Calculations

Emissions Summary

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhail

<table>
<thead>
<tr>
<th>Process/Emission Unit</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Styrene</th>
<th>MMA</th>
<th>Total Combined HAPs</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinning Tanks</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Mix &amp; Thin tanks and Styrene Flux</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Storage Tanks</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Reactors</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Parts Washers</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Em. Diesel generator GT600</td>
<td>0.28</td>
<td>0.16</td>
<td>0.16</td>
<td>1.61</td>
<td>9.55</td>
<td>0.28</td>
<td>2.19</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Em. Diesel generator LT600</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.19</td>
<td>0.10</td>
<td>0.26</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Em. Diesel FirePump LT600</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
<td>1.47</td>
<td>0.12</td>
<td>0.32</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Natural Gas Combustion 2</td>
<td>0.01</td>
<td>0.05</td>
<td>0.05</td>
<td>0.72</td>
<td>0.04</td>
<td>0.60</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Paved Roads</td>
<td>1.98</td>
<td>0.40</td>
<td>0.10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Total 6.43 7.35 7.06 142.84 52.67 1285.70 26.27 27.21 0.00 27.75 27.21

* Emissions based on fuel consumption limit
** Indicates Fugitive Emissions

<table>
<thead>
<tr>
<th>Process/Emission Unit</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Styrene</th>
<th>MMA</th>
<th>Total Combined HAPs</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinning Tanks</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Mix &amp; Thin tanks and Styrene Flux</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Storage Tanks</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Reactors</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Parts Washers</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>141.05</td>
<td>141.05</td>
<td>Styrene</td>
</tr>
<tr>
<td>Em. Diesel generator GT600</td>
<td>0.28</td>
<td>0.16</td>
<td>0.16</td>
<td>1.61</td>
<td>9.55</td>
<td>0.28</td>
<td>2.19</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Em. Diesel generator LT600</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.19</td>
<td>0.10</td>
<td>0.26</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Em. Diesel FirePump LT600</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
<td>1.47</td>
<td>0.12</td>
<td>0.32</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Natural Gas Combustion 2</td>
<td>0.01</td>
<td>0.05</td>
<td>0.05</td>
<td>0.72</td>
<td>0.04</td>
<td>0.60</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Paved Roads</td>
<td>1.98</td>
<td>0.40</td>
<td>0.10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Total 4.96 4.52 4.63 30.54 40.20 20.18 26.27 7.32 0.00 7.85 7.32

** Indicates Fugitive Emissions
### Appendix A: Emissions Calculations
**MixThinFlushTanks EPA method**

**Company Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**Permit Number:** F127-39976-00003  
**Reviewer:** Mena Mekhall

**Average density of product is 9.174 lbs/gal**

<table>
<thead>
<tr>
<th>Mixing and Thinning Tanks &amp; Flush Tanks Styrene Emissions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPA Methodology</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Styrene concentration out</strong></td>
<td></td>
</tr>
<tr>
<td>Annual Max</td>
<td>Process (in PPM)</td>
</tr>
<tr>
<td>Annual Max</td>
<td></td>
</tr>
<tr>
<td>Limited throughput</td>
<td>94,365 tons/yr</td>
</tr>
</tbody>
</table>

From "Air Pollution Control A Design Approach" 4th edition by: Cooper & Alley

**Cmass = 1000 * Cppm * MW / (RT/P)**  
**R = 0.0820573 atm*L/(mol*K)**  
**MW [g/mol]**  
**Assume P = 1 atm**  
**MW_{styrene} = 104.15 g/gmol**  
**1 µg/m³ = 8.3454 * 10^-12 lb/gal**  
**Cmass [µg/m³] Cmass [lbs/gal]**  
222672.71 1.86E-06

<table>
<thead>
<tr>
<th>Styrene emissions</th>
<th>Month</th>
<th>lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td>76.46</td>
<td></td>
</tr>
</tbody>
</table>

| Total (year) | 76.46 lbs |
| Total (year) | 0.038 tons |
| Emission Factor | 0.00081 lb/ton |
Appendix A: Emissions Calculations
Product Loading

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhail

Product Loading

<table>
<thead>
<tr>
<th>Total Product Loading Throughput: 200,760,000 lbs/yr</th>
<th>AP-42 Ch. 5.2.1 Loading loss (L_c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (lb/gal) 9.174</td>
<td>S = 1.45 Table 5.2-1 Saturation Factors - Splash loading of a clean cargo tank</td>
</tr>
<tr>
<td>Emission Factor 0.41815 gals/yr</td>
<td>P = 0.12 true vapor pressure (psia)</td>
</tr>
<tr>
<td>Percent Total HAP of Mixture 35.00%</td>
<td>M = 104.15 Molecular weight</td>
</tr>
<tr>
<td>Percent Styrene Content 35.00%</td>
<td>T = 540 Temp °R (°F + 460)</td>
</tr>
<tr>
<td>Styrene emission control system 0.00%</td>
<td>L_c = 0.41815</td>
</tr>
</tbody>
</table>

Loading and Unloading VOC Emissions: 4.58 tons/yr
Loading and Unloading HAP Emissions: 1.60 tons/yr
Loading and Unloading Styrene Emissions: 1.60 tons/yr

Emission Factor from AP-42, Chapter 5.2, Equation 1, splash loading
Emissions (tons/yr) = Throughput (tons/yr) x Emission Factor (lb/1000 lbs)
The emissions from this operation are considered fugitive
Percent HAP and percent styrene based off of percentage of HAP and styrene in blending and mixing raw r
HAP Emissions (tons/year) = VOC emissions (tons/year) x Percent Total HAP of Mixture
Styrene Emissions (tons/year) = VOC emissions (tons/year) x Percent Styrene Content
Appendix A: Emissions Calculations
Drum Off Station

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhail

Drum Off Station:

<table>
<thead>
<tr>
<th>Throughput</th>
<th>6,015 tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (lb/gal)</td>
<td>9.174</td>
</tr>
<tr>
<td>Emission Factor</td>
<td>0.416 lb VOC/1000 gal product</td>
</tr>
<tr>
<td>Control Efficiency</td>
<td>99.22%</td>
</tr>
<tr>
<td>Percent Total HAP of Mixture:</td>
<td>35%</td>
</tr>
<tr>
<td>Percent Styrene Content:</td>
<td>35%</td>
</tr>
<tr>
<td>Uncontrolled VOC Emissions:</td>
<td>0.27 tons/yr</td>
</tr>
<tr>
<td>Uncontrolled HAP Emissions:</td>
<td>9.60E-02 tons/yr</td>
</tr>
<tr>
<td>After Control VOC Emissions:</td>
<td>2.14E-03 tons/yr</td>
</tr>
<tr>
<td>After Control HAP Emissions:</td>
<td>7.48E-04 tons/yr</td>
</tr>
<tr>
<td>After Control Styrene Emissions:</td>
<td>7.48E-04 tons/yr</td>
</tr>
</tbody>
</table>

AP-42 Ch. 5.2.1
Loading loss ($L_L$)

\[ L_L = \frac{S}{12.46} \]

$S = 1.45$ Table 5.2-1 Saturation Factors - Splash loading of a clean cargo tan

$P = 0.12$ true vapor pressure (psia)

$M = 104.15$

$T = 540$

Uncontrolled VOC Emissions: 0.091 lb/ton

Uncontrolled HAP Emissions: 0.032 lb/ton

Molecular weight

Temp $^oR (^oF + 460)$

Methodology
Limited PTE (ton/year) = Throughput (tons/year) x Emission Factor (ton/ton) x (1-control efficiency)

Emission Factor from AP-42, Chapter 5.2, Equation 1, splash loading
### Appendix A: Emissions Calculations

#### Storage Tanks

**Company Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**Permit Number:** F127-39976-00003  
**Reviewer:** Mena Mekhail

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage 2</td>
<td>16000</td>
<td></td>
<td>33,994,988</td>
<td>816.40</td>
<td>0.408</td>
<td>0.041</td>
<td>0.014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage 3</td>
<td>30000</td>
<td></td>
<td></td>
<td>37.65</td>
<td>0.029</td>
<td>0.010</td>
<td>0.003</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Storage 6</td>
<td>30000</td>
<td></td>
<td></td>
<td>130.24</td>
<td>0.065</td>
<td>0.023</td>
<td>0.007</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Storage 7</td>
<td>25000</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage 8</td>
<td>105000</td>
<td></td>
<td>319.64</td>
<td>111.87</td>
<td>0.160</td>
<td>0.056</td>
<td>0.016</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>Storage 9</td>
<td>105000</td>
<td></td>
<td>137.01</td>
<td>47.95</td>
<td>0.069</td>
<td>0.024</td>
<td>0.007</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Storage 12</td>
<td>50000</td>
<td></td>
<td>55.68</td>
<td>19.49</td>
<td>0.028</td>
<td>0.010</td>
<td>0.003</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Storage 13</td>
<td>50000</td>
<td></td>
<td>138.22</td>
<td>48.38</td>
<td>0.069</td>
<td>0.024</td>
<td>0.007</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Storage 14</td>
<td>50000</td>
<td></td>
<td>16.92</td>
<td>5.92</td>
<td>0.008</td>
<td>0.003</td>
<td>0.001</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Storage 19</td>
<td>69000</td>
<td></td>
<td>378.59</td>
<td>378.59</td>
<td>0.189</td>
<td>0.189</td>
<td>0.019</td>
<td>0.019</td>
<td></td>
</tr>
<tr>
<td>Storage 20</td>
<td>30000</td>
<td></td>
<td>87.26</td>
<td>30.54</td>
<td>0.044</td>
<td>0.015</td>
<td>0.004</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Storage 21</td>
<td>30000</td>
<td></td>
<td>63.16</td>
<td>22.11</td>
<td>0.032</td>
<td>0.011</td>
<td>0.003</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Storage 23</td>
<td>32500</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>155,935</td>
<td>311,870,000</td>
<td>1.10</td>
<td>0.51</td>
<td>0.11</td>
<td>0.05</td>
<td></td>
</tr>
</tbody>
</table>

**Emissions are based on Tanks 4.09d**

**Limited throughput for Storage Tanks from permit is 155,935 tons/yr.** At a density of about 7.55 lbs/gal, this is about 63 turnovers/yr/tank, assuming full tanks.
Appendix A: Emissions Calculations
Temp Trailer Storage Loading

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhail

Product Loading into Temporary Trailer Storage

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Product Loading Throughput:</td>
<td>16,380,000 lbs/yr</td>
</tr>
<tr>
<td>Density (lb/gal)</td>
<td>9.174</td>
</tr>
<tr>
<td>Loading loss (L_L)</td>
<td>9.174</td>
</tr>
<tr>
<td>Emission Factors:</td>
<td>0.41815 lb VOC/1000 gal product</td>
</tr>
<tr>
<td>Percent Total HAP of Mixture:</td>
<td>35.00%</td>
</tr>
<tr>
<td>Percent Styrene Content:</td>
<td>35.00%</td>
</tr>
<tr>
<td>Styrene emission control system:</td>
<td>0.00%</td>
</tr>
<tr>
<td>Loading and Unloading VOC Emissions:</td>
<td>0.37 tons/yr</td>
</tr>
<tr>
<td>Loading and Unloading HAP Emissions:</td>
<td>0.13 tons/yr</td>
</tr>
<tr>
<td>Loading and Unloading Styrene Emissions:</td>
<td>0.13 tons/yr</td>
</tr>
</tbody>
</table>

Emission Factor from AP-42, Chapter 5.2, Equation 1, splash loading
Emissions (tons/yr) = Throughput (tons/yr) x Emission Factor (lb/1000 lbs)

The emissions from this operation are considered fugitive
Percent HAP and percent styrene based off of percentage of HAP and styrene in blending and mixing raw r
HAP Emissions (tons/year) = VOC emissions (tons/year) x Percent Total HAP of Mixture
Styrene Emissions (tons/year) = VOC emissions (tons/year) x Percent Styrene Content
## Trailers Temporary Storage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tankers</td>
<td>4981.304</td>
<td>16,380,000</td>
<td>1,785,481</td>
<td>159.84</td>
<td>55.94</td>
<td>0.07992</td>
<td>0.027972</td>
</tr>
<tr>
<td>Tankers</td>
<td>Temporary Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.99E-02</td>
</tr>
</tbody>
</table>

Emissions are based on Tanks 4.09d
Appendix A: Emissions Calculations

Pultrusion

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mona Mekhall

Pultrusion Unit

Limited Resin Usage: 1578.9 tons/year
Styrene Content: 35%
Density: 9.2 lbs/gallon
Emission Factor: 4.00% styrene emitted/styrene used
Overall Efficiency of Carbon Adsorption: 90%
Limited/Uncontrolled Emissions: 22.10 tons/year
Limited/Controlled Emissions: 2.210 tons/year

Emission Factor from AP-42 Table 4.4-2 Pultrusion (4.0%)

Limited Emissions (ton/year) = Actual Usage (tons/yr) x Styrene Content x Emission Factor x (1-Overall Efficiency)

This unit is considered an insignificant activity pursuant to 326 IAC 2-7-1(21)(E) Research and Development Activities
Appendix A: Emissions Calculations

Reactors

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhail

50,000 tons/year 15%
95%
15%
99.75%
180.00 tons/year
2.67 tons/year

Limited Throughput 50,000 tons/year
Yield Loss 15%
Vapor 12%
VOC Content 20%
Control Efficiency 99.75%
Limited/Uncontrolled Emissions 180.00 tons/year
Limited/Controlled Emissions 0.45 tons/year

50,000 tons/year
Yield Loss 15%
Distillate 95%
VOC Content 15%
Control Efficiency 99.75%
Limited/Uncontrolled Emissions 1068.75 tons/year
Limited/Controlled Emissions 2.67 tons/year

Methodology
Actual PTE (ton/year) = Actual throughput (tons/year) x yield loss x vapor or distillate percentage x VOC content x (1-Control Efficiency)
Yield Loss: Worst-case percentage based on production data
Vapor: Worst-case percentage of loss that is vapor
Distillate: Worst-case percentage of loss that is distillate
VOC Content: VOC content of vapor and distillate based on sampling and testing data
Control Efficiency: Based on approved stack test completed October 2004
### Additional Fugitive VOC and HAP Emission Sources - Styrene

<table>
<thead>
<tr>
<th>Component</th>
<th>2018 Component Count</th>
<th>Mix Tank 4</th>
<th>Mix Tank 5</th>
<th>Mix Tank 6</th>
<th>Mix Tank 7</th>
<th>Storage Tank 20</th>
<th>Storage Tank 21</th>
<th>Storage Tank 23</th>
<th>Total from Count</th>
<th>Total Sampled</th>
<th>VOC Emissions (tons/yr)</th>
<th>HAP Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valves</td>
<td>209</td>
<td>25</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>435</td>
<td>226</td>
<td>0.009</td>
<td>0.00</td>
</tr>
<tr>
<td>Pump seals</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>20</td>
<td>7</td>
<td>0.145</td>
<td>0.00</td>
</tr>
<tr>
<td>Flanges</td>
<td>1140</td>
<td>44</td>
<td>145</td>
<td>145</td>
<td>145</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>1802</td>
<td>899</td>
<td>0.012</td>
<td>0.01</td>
</tr>
<tr>
<td>Open ended lines (drains)</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>63</td>
<td>0.012</td>
<td>0.00</td>
</tr>
<tr>
<td>Sample taps</td>
<td>25</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td></td>
<td>0.012</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Total: 0.01 0.00

#### Logic:
- In order to get a count of additional component fugitive leaks we went through and counted the components and added them to the sources identified in the 1996 permit application.
- (1) Blend tank #4 is a unique tank so the components were counted for this tank.
- (2) For Mix Tanks 5, 6, & 7. We pulled the prints and walked to line to do a count on mix tank #7 our most complex mix tank system. We then used that count for tanks 5 & 6.
- (3) For Storage Tanks 20, 21, & 23. We pulled the prints and walked to line to do a count on storage tank #23 our newest and most complex storage tank system. We then used that count for tanks 20 & 21.
### Appendix A: Emissions Calculations

**CompFugDefaultZero Styrene**

**Company Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**Permit Number:** F127-38976-00003  
**Reviewer:** Mena Mekhail  
**2018**

#### Component count

<table>
<thead>
<tr>
<th>Component</th>
<th>Mix Tank 4</th>
<th>Mix Tank 5</th>
<th>Mix Tank 6</th>
<th>Mix Tank 7</th>
<th>Storage Tank 20</th>
<th>Storage Tank 21</th>
<th>Storage Tank 23</th>
<th>Total from count</th>
<th>Total Sampled &lt;1 ppm</th>
<th>Emission Factor (lbs/yr/source)</th>
<th>VOC Emissions (tons/yr)</th>
<th>HAP Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valves</td>
<td>209</td>
<td>25</td>
<td>49</td>
<td>49</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>435</td>
<td>42</td>
<td>0.009</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pump seals</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>26</td>
<td>1</td>
<td>0.145</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Flanges</td>
<td>1140</td>
<td>44</td>
<td>145</td>
<td>145</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>1802</td>
<td>211</td>
<td>0.012</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Open ended lines (drains)</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>14</td>
<td>0.012</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Sample taps</td>
<td>25</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>0.012</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Accounted for in 1996 Permit A**

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>TT1</th>
<th>TT2</th>
<th>MT1</th>
<th>MT2</th>
<th>MT3</th>
<th>ST2</th>
<th>ST3</th>
<th>ST6</th>
<th>ST8</th>
<th>ST9</th>
<th>ST12</th>
<th>ST13</th>
<th>ST14</th>
</tr>
</thead>
</table>

**Logic:**

1. In order to get a count of additional component fugitive leaks we went through and counted the components and added them to the sources identified in the 1996 permit application.

2. Blend tank #4 is a unique tank so the components were counted for this tank.

3. For Mix Tanks 5, 6, & 7. We pulled the prints and walked to line to do a count on mix tank #7 our most complex mix tank system. We then used that count for tanks 5 & 6.

4. For Storage Tanks 20, 21, & 23. We pulled the prints and walked to line to do a count on storage tank #23 our newest and most complex storage tank system. We then used that count for tanks 20 & 21.
### Additional Fugitive VOC and HAP Emission Sources - Styrene

<table>
<thead>
<tr>
<th>Component</th>
<th>2018 Component Count</th>
<th>Mix Tank 4 (^{(1)} )</th>
<th>Mix Tank 5</th>
<th>Mix Tank 6</th>
<th>Mix Tank 7 (^{(2)} )</th>
<th>Storage Tank 20</th>
<th>Storage Tank 21</th>
<th>Storage Tank 23 (^{(3)} )</th>
<th>Grand Total</th>
<th>Total Sampled ( &lt; 10,000 ) ppm</th>
<th>Total Sampled ( &gt; 10,000 ) ppm</th>
<th>VOC Emissions (tons/yr)</th>
<th>HAP (Styrene) Emissions (tons/yr)</th>
<th>HAP Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valves</td>
<td>209</td>
<td>25</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>435</td>
<td>414</td>
<td>3.18</td>
<td>0.66</td>
<td>0.23</td>
<td>1719.06</td>
</tr>
<tr>
<td>Pump seals</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>26</td>
<td>5</td>
<td>38.04</td>
<td>0.09</td>
<td>0.03</td>
<td>4683.10</td>
</tr>
<tr>
<td>Flanges</td>
<td>1140</td>
<td>44</td>
<td>145</td>
<td>145</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>1602</td>
<td>1777</td>
<td>1.56</td>
<td>1.39</td>
<td>0.49</td>
<td>2177.74</td>
</tr>
<tr>
<td>Open ended lines</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>91</td>
<td>28.91</td>
<td>1.32</td>
<td>0.46</td>
<td>230.30</td>
</tr>
<tr>
<td>Sample taps</td>
<td>25</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>28.91</td>
<td>0.00</td>
<td>0.00</td>
<td>230.30</td>
</tr>
</tbody>
</table>

#### Accounted for in 1996 Permit Application:

<table>
<thead>
<tr>
<th>Source</th>
<th>Count</th>
<th>VOC Emissions (tons/yr)</th>
<th>HAP Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>2318</td>
<td>5.00</td>
<td>1.75</td>
</tr>
<tr>
<td>R2</td>
<td>2695</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logic:**

1. In order to get a count of additional component fugitive leaks, we went through and counted the components and added them to the sources identified in Report.
2. Blend tank #4 is a unique tank so the components were counted for this tank.
3. For Mix Tanks 5, 6, & 7, we pulled the prints and walked to line to do a count on mix tank #7, our most complex mix tank system. We then used that count for tanks 5 & 6.
4. For Storage Tanks 20, 21, & 23, we pulled the prints and walked to line to do a count on storage tank #23, our newest and most complex storage tank system. We then used that count for tanks 20 & 21.

For components in liquid service, you may need to choose between a "heavy liquid" factor and a "light liquid" factor. Use the "heavy liquid" factor if the stream's vapor pressure is less than or equal to 0.044 psia at 68°F. If the stream's vapor pressure is greater than 0.044 psia at 68°F, use the appropriate "light liquid" factor. Reference - TCEQ Determining Emissions from Monitored Components ([https://www.tceq.texas.gov/assets/public/implementation/air/c/e/reiforms/ef_elfc.pdf](https://www.tceq.texas.gov/assets/public/implementation/air/c/e/reiforms/ef_elfc.pdf)).

Based on TCEQ guidance, assumed styrene is a light liquid since vapor pressure is greater than 0.044 psia at 68°F.

Emission Factors from Table 2-5 Screening Range Emission Factors (< 10,000 ppmv)
Appendix A: Emissions Calculations
CompFugScreenEF Styrene

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhall

Reporting Year: 0

### Additional Fugitive VOC and HAP Emission Sources - Styrene

<table>
<thead>
<tr>
<th>Component</th>
<th>2018 component count</th>
<th>Mix Tank 4</th>
<th>Mix Tank 5</th>
<th>Mix Tank 6</th>
<th>Mix Tank 7</th>
<th>Storage Tank 20</th>
<th>Storage Tank 21</th>
<th>Storage Tank 23</th>
<th>Grand Total</th>
<th>Total Sampled &gt; 1 ppm and &lt; 10,000 ppm</th>
<th>Emission Factor &gt; 1 ppm and &lt; 10,000 ppm (lbs/yr/source)</th>
<th>VOC Emissions (tons/yr)</th>
<th>HAP (Styrene) Emissions (tons/yr)</th>
<th>Emission Factor &gt; 10,000 ppm (lbs/yr/source)</th>
<th>VOC Emissions (tons/yr)</th>
<th>HAP (Styrene) Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valves</td>
<td>209</td>
<td>25</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>435</td>
<td>138</td>
<td>3.18</td>
<td>0.22</td>
<td>0.22</td>
<td>1719.06</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pump seals</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>26</td>
<td>3</td>
<td>36.04</td>
<td>0.05</td>
<td>0.05</td>
<td>4683.10</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Flanges</td>
<td>1140</td>
<td>44</td>
<td>145</td>
<td>145</td>
<td>145</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>1802</td>
<td>610</td>
<td>1.56</td>
<td>0.48</td>
<td>0.48</td>
<td>2177.74</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Open ended lines (drains)</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>32</td>
<td>28.91</td>
<td>0.46</td>
<td>0.46</td>
<td>230.30</td>
<td>0.23</td>
<td>0.23</td>
</tr>
<tr>
<td>Sample taps</td>
<td>25</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>2</td>
<td>28.91</td>
<td>0.00</td>
<td>0.00</td>
<td>230.30</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>TT1</th>
<th>TT2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.21</td>
<td>1.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logic:** In order to get a count of additional component fugitive leaks we went through and counted the components and added them to the sources

1. Blend tank #4 is a unique tank so the components were counted for this tank
2. For Mix Tanks 5, 6, & 7. We pulled the prints and walked to line to do a count on mix tank #7 our most complex mix tank system. We then used that count for tanks 5 & 6.
3. For Storage Tanks 20, 21, & 23. We pulled the prints and walked to line to do a count on storage tank #23 our newest and most complex storage tank system. We then used that count for tanks 20 & 21.

For components in liquid service, you may need to choose between a “heavy liquid” factor and a “light liquid” factor. Use the “heavy liquid” factor if the stream’s vapor pressure is less than or equal to 0.044 psia at 68°F. If the stream’s vapor pressure is greater than 0.044 psia at 68°F, use the appropriate “light liquid” factor. Reference - TCEQ Determining Emissions from Monitored Components (https://www.tceq.texas.gov/assets/public/implementation/ei/ei_pseiforms/ef_eilc.pdf)

Based on TCEQ guidance, assumed styrene is a light liquid since vapor pressure is greater than 0.044 psia at 68°F

Emission Factors from Table 2-5 Screening Range Emission Factors (< 10,000 ppmv)
# Emissions Calculations

**Filter Bags and Labs**

**Company Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**Permit Number:** F127-29976-00003  
**Reviewer:** Mona Mekhail

<table>
<thead>
<tr>
<th>Process 10 Filter bag changes</th>
<th>Process 11 - PC &amp; QA Lab sample testing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mix tank batches</strong></td>
<td><strong>PC &amp; QA Labs</strong></td>
</tr>
<tr>
<td>Change 2 Filter bags per batch</td>
<td>Samples use approximately 400 mL for the testing</td>
</tr>
<tr>
<td>5400</td>
<td>Assumption: for calculating purpose we assume all TT batches are tested twice.</td>
</tr>
<tr>
<td><strong>Thin tank batches</strong></td>
<td></td>
</tr>
<tr>
<td>Change 2 Filter bags every 10 batches</td>
<td>There are two tests done per mix tank batch</td>
</tr>
<tr>
<td>230 per year</td>
<td>There are two tests done per most thin tank batches</td>
</tr>
<tr>
<td><strong>Annual MT Batch Changes</strong></td>
<td>7000 Annual MT batch tests</td>
</tr>
<tr>
<td>5400</td>
<td>1500 2016 TT batch tests</td>
</tr>
<tr>
<td><strong>Annual TT batch changes</strong></td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>8500 2016 total batch samples</td>
</tr>
<tr>
<td><strong>Total Filter Changes</strong></td>
<td><strong>Emission factor</strong></td>
</tr>
<tr>
<td>5630</td>
<td>0.016 lbs. styrene per batch</td>
</tr>
<tr>
<td><strong>Total styrene emissions (lbs/yr)</strong></td>
<td>0.045 Total styrene emissions (tons/yr)</td>
</tr>
<tr>
<td>5630</td>
<td>119 Total styrene emissions (lbs/yr)</td>
</tr>
<tr>
<td><strong>Total styrene emissions (tons/yr)</strong></td>
<td>0.060 Total styrene emissions (tons/yr)</td>
</tr>
</tbody>
</table>

---

*Emission factor from 2002 i-Step documentation (lbs styrene/batch)*
Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100

Company Name: AOC, LLC  
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383  
Permit Number: F127-39976-00003  
Reviewer: Mena Mekhail

Heat Input Capacity: 1.7 MMBtu/hr  
Actual Throughput: 8 Furnaces 14.4 MMCF/yr

### Pollutant Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.9</td>
<td>7.6</td>
<td>7.6</td>
<td>0.6</td>
<td>100.0</td>
<td>5.5</td>
<td>84.0</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.01</td>
<td>0.05</td>
<td>0.05</td>
<td>0.00</td>
<td>0.72</td>
<td>0.04</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factor is filterable and condensable PM10 and PM2.5 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu  
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

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 (SUPPLEMENT D 3/98)

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

### HAPs - Organics

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
<td>1.51E-05</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
<td>8.63E-06</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
<td>5.39E-04</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
<td>1.29E-02</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03</td>
<td>2.44E-05</td>
</tr>
</tbody>
</table>

### HAPs - Metals

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>5.0E-04</td>
<td>3.59E-06</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
<td>7.91E-06</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
<td>1.01E-05</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
<td>2.73E-06</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
<td>1.51E-05</td>
</tr>
</tbody>
</table>

Total HAPs = 1.36E-02

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.
## Appendix A: Emissions Calculations

### Natural Gas Combustion Only

#### MM BTU/hr <100

**Company Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**Permit Number:** F127-39976-00003  
**Reviewer:** Mena Mekhail

### Heat Input Capacity

- **25** NG Boiler
- **18** NG oil Heater
- **12.5** NG Boiler
- **8** NG Thermal Oxidizer

<table>
<thead>
<tr>
<th>Potential Throughput</th>
<th>MMBtu/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>545.4</td>
</tr>
</tbody>
</table>

### Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>1.9</td>
<td>0.5</td>
</tr>
<tr>
<td>PM10*</td>
<td>7.6</td>
<td>2.1</td>
</tr>
<tr>
<td>PM2.5</td>
<td>7.6</td>
<td>2.1</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>NOx</td>
<td>100.0</td>
<td>27.3</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>1.5</td>
</tr>
<tr>
<td>CO</td>
<td>84.0</td>
<td>22.9</td>
</tr>
</tbody>
</table>

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factor is filterable and condensable PM10 and PM2.5 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32**

### Methodology

- **Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu**
- **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**

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

### HAPs - Organics

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03</td>
</tr>
</tbody>
</table>

### HAPs - Metals

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>5.0E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
</tr>
</tbody>
</table>

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
Appendix A: Emissions Calculations

#2 Fuel Oil

Company Name: AOC, LLC
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhail

Heat Input Capacity

<table>
<thead>
<tr>
<th>MMBtu/hr</th>
<th>Potential Throughput kgals/year</th>
<th>$S = \text{Weight } % \text{ Sulfur}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 #2 fuel oil Boiler</td>
<td>3973.3</td>
<td>0.3</td>
</tr>
<tr>
<td>18 #2 fuel hot oil Heater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5 #2 fuel oil Boiler</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 #2 fuel oil Thermal Oxidizer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM$^*$</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>2.0</td>
<td>3.3</td>
<td>71</td>
<td>20.0</td>
<td>0.34</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>(142.05)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM$^*$</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Emission in tons/yr</td>
<td>4.0</td>
<td>6.6</td>
<td>6.6</td>
<td>141.1</td>
<td>39.7</td>
<td>0.7</td>
<td>9.9</td>
</tr>
</tbody>
</table>

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 1-03-005-01/02/03) Supplement E 9/98 (see Errata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal. All condensable PM is assumed to be less than 1.0 micron in diameter.

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

<table>
<thead>
<tr>
<th>HAPs - Metals</th>
<th>Emission Factor in lb/mmBtu</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>4.0E-06</td>
<td>6.96E-02</td>
</tr>
<tr>
<td>Beryllium</td>
<td>3.0E-06</td>
<td>5.22E-02</td>
</tr>
<tr>
<td>Cadmium</td>
<td>3.0E-06</td>
<td>5.22E-02</td>
</tr>
<tr>
<td>Chromium</td>
<td>3.0E-06</td>
<td>5.22E-02</td>
</tr>
<tr>
<td>Lead</td>
<td>9.0E-06</td>
<td>1.57E-01</td>
</tr>
<tr>
<td>HAPs - Metals (continued)</td>
<td>Emission Factor in lb/mmBtu</td>
<td>Potential Emission in tons/yr</td>
</tr>
<tr>
<td>Mercury</td>
<td>3.0E-06</td>
<td>5.22E-02</td>
</tr>
<tr>
<td>Manganese</td>
<td>6.0E-06</td>
<td>1.04E-01</td>
</tr>
<tr>
<td>Nickel</td>
<td>3.0E-06</td>
<td>5.22E-02</td>
</tr>
<tr>
<td>Selenium</td>
<td>1.5E-05</td>
<td>2.61E-01</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>8.53E-01</td>
<td></td>
</tr>
</tbody>
</table>

Methodology

No data was available in AP-42 for organic HAPs.

Potential Emissions (tons/year) = Throughput (mmBtu/hr) x Emission Factor (lb/mmBtu) / 2,000 lbs/ton
Appendix A: Emissions Calculations

#1 and #2 Fuel Oil

Limited Fuel Consumption

Company Name: AOC, LLC
Address City IN Zip: 2552 Industrial Drive, Valparaiso, Indiana 46383
Permit Number: F127-39976-00003
Reviewer: Mena Mekhall

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/kgal</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>PM10</td>
<td>3.3</td>
<td>4.1</td>
</tr>
<tr>
<td>PM2.5</td>
<td>3.3</td>
<td>4.1</td>
</tr>
<tr>
<td>SO2</td>
<td>71</td>
<td>88.8</td>
</tr>
<tr>
<td>NOx</td>
<td>20.0</td>
<td>25.0</td>
</tr>
<tr>
<td>VOC</td>
<td>0.34</td>
<td>0.4</td>
</tr>
<tr>
<td>CO</td>
<td>5.0</td>
<td>6.3</td>
</tr>
</tbody>
</table>

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

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Througput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1,000 gallon x 1 gal per 0.140 MM Btu

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

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

All condensable PM is assumed to be less than 1.0 micron in diameter.

HAPs - Metals

<table>
<thead>
<tr>
<th>Emission Factor in lb/mmBtu</th>
<th>Arsenic 4.0E-06</th>
<th>Beryllium 3.0E-06</th>
<th>Cadmium 3.0E-06</th>
<th>Chromium 3.0E-06</th>
<th>Lead 9.0E-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Emission in tons/yr</td>
<td>1.11E-03</td>
<td>8.34E-04</td>
<td>8.34E-04</td>
<td>8.34E-04</td>
<td>2.50E-03</td>
</tr>
</tbody>
</table>

HAPs - Metals (continued)

<table>
<thead>
<tr>
<th>Emission Factor in lb/mmBtu</th>
<th>Mercury 3.0E-06</th>
<th>Manganese 6.0E-06</th>
<th>Nickel 3.0E-06</th>
<th>Selenium 1.5E-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Emission in tons/yr</td>
<td>8.34E-04</td>
<td>1.67E-03</td>
<td>8.34E-04</td>
<td>4.17E-03</td>
</tr>
</tbody>
</table>

Total HAPs = 1.36E-02

Methodology

No data was available in AP-42 for organic HAPs.

Potential Emissions (tons/year) = Throughput (MMBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton
### Appendix A: Emissions Calculations

#### Parts Washers

**Company Name:** AOC, LLC  
**Source Address:** 2552 Industrial Drive, Valparaiso, Indiana 46383  
**Permit Number:** F127-39976-00003  
**Reviewer:** Mena Mekhail

<table>
<thead>
<tr>
<th>Parts Washer Operations</th>
<th>Solvent Used</th>
<th>Density (lbs/gal)</th>
<th>Maximum Consumption (gallons/year)</th>
<th>Maximum Usage (lbs/year)</th>
<th>Weight % VOC</th>
<th>VOC Emissions (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Cleaner</td>
<td>Mineral Spirits</td>
<td>6.76</td>
<td>14</td>
<td>94.58</td>
<td>100.00%</td>
<td>0.05</td>
</tr>
<tr>
<td>Cold Cleaner</td>
<td>N-Methyl Pyrrolidone</td>
<td>8.57</td>
<td>10</td>
<td>85.74</td>
<td>100.00%</td>
<td>0.04</td>
</tr>
<tr>
<td>Cold Cleaner</td>
<td>N-Methyl Pyrrolidone</td>
<td>8.57</td>
<td>10</td>
<td>85.74</td>
<td>100.00%</td>
<td>0.04</td>
</tr>
</tbody>
</table>

**Total Potential Emissions:** 0.13

**METHODOLOGY**

\[
\text{VOC emission rate} \text{ (tpy)} = \text{Material Usage (lbs/year)} \times \text{Weight % VOC} \times 8760 \text{ hrs/yr} \times \frac{1 \text{ ton}}{2000 \text{ lbs}}
\]

\[
\text{Maximum Usage (lbs/year)} = \text{Density (lbs/gal)} \times \text{Maximum Usage (gallons/year)}
\]
TSD Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)
Maximum Input Rate (>4.2 MMBtu/hr)

Company Name: AOC LLC
Address City  IN Zip: 2552 Industrial Dr., Valparaiso, IN
Permit No./Plt ID: 127-39976-00003
Reviewer: Mena Mekhail

Emissions calculated based on output rating (hp)

| Output Horsepower Rating (hp) | 1592.0 |
| Maximum Hours Operated per Year | 500 |
| Potential Throughput (hp-hr/yr) | 796,000 |
| Sulfur Content (S) of Fuel (% by weight) | 0.500 |

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>7.00E-04</td>
<td>4.01E-04</td>
<td>4.01E-04</td>
<td>4.05E-03</td>
<td>2.40E-02</td>
<td>7.05E-04</td>
<td>5.50E-03</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.28</td>
<td>0.16</td>
<td>0.16</td>
<td>1.61</td>
<td><strong>see below</strong></td>
<td>9.55</td>
<td>0.28</td>
</tr>
</tbody>
</table>

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH HAPs***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>5.43E-06</td>
<td>1.97E-06</td>
<td>1.35E-06</td>
<td>5.52E-07</td>
<td>1.76E-07</td>
<td>5.52E-08</td>
<td>1.48E-06</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>2.16E-03</td>
<td>7.83E-04</td>
<td>5.38E-04</td>
<td>2.20E-04</td>
<td>7.02E-05</td>
<td>2.20E-05</td>
<td>5.91E-04</td>
</tr>
</tbody>
</table>

Potential Emission of Total HAPs (tons/yr) 4.39E-03

***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).

Methodology
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.
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]
Appendix A: Emission Calculations

Reciprocating Internal Combustion Engines - Diesel Fuel

Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)

Company Name: AOC LLC
Address City IN Zip: 2552 Industrial Dr., Valparaiso, IN
Permit No./Pit ID: 127-39976-00003
Reviewer: Mena Mekhail

Output Horsepower Rating (hp) 154.0
Maximum Hours Operated per Year 500
Potential Throughput (hp-hr/yr) 77,000

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
<td>0.0067</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>1.19</td>
<td>0.10</td>
<td>0.26</td>
</tr>
</tbody>
</table>

*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)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>1,3-Butadiene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH HAPs***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>6.53E-06</td>
<td>2.86E-06</td>
<td>2.00E-06</td>
<td>2.74E-07</td>
<td>8.26E-06</td>
<td>5.37E-06</td>
<td>6.48E-07</td>
<td>1.18E-06</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>2.51E-04</td>
<td>1.10E-04</td>
<td>7.68E-05</td>
<td>1.05E-05</td>
<td>3.18E-04</td>
<td>2.07E-04</td>
<td>2.49E-05</td>
<td>4.53E-05</td>
</tr>
</tbody>
</table>

***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) 1.04E-03

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.

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]
Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)

Company Name: AOC LLC
Address City IN Zip: 2552 Industrial Dr., Valparaiso, IN
Permit No./Plt ID: 127-39976-00003
Reviewer: Mena Mekhail

| Output Horsepower Rating (hp) | 190.0 |
| Maximum Hours Operated per Year | 500 |
| Potential Throughput (hp-hr/yr) | 95,000 |

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
<td>0.0067</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
<td>1.47</td>
<td>0.12</td>
<td>0.32</td>
</tr>
</tbody>
</table>

*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)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>1,3-Butadiene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH HAPs***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>6.53E-06</td>
<td>2.86E-06</td>
<td>2.00E-06</td>
<td>2.74E-07</td>
<td>8.26E-06</td>
<td>5.37E-06</td>
<td>6.48E-07</td>
<td>1.18E-06</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>3.10E-04</td>
<td>1.36E-04</td>
<td>9.48E-05</td>
<td>1.30E-05</td>
<td>3.92E-04</td>
<td>2.55E-04</td>
<td>3.08E-05</td>
<td>5.59E-05</td>
</tr>
</tbody>
</table>

***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).

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.

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]
Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: AOC LLC
Address City IN Zip: 2552 Industrial Dr., Valparaiso, IN
Permit No./Pit ID: 127-39976-00003
Reviewer: Mena Mekhail

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 (1/2011).

Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight of Loaded Vehicle (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (mi/trip)</th>
<th>Maximum one-way miles (miles/day)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material</td>
<td>4.0</td>
<td>1.0</td>
<td>4.0</td>
<td>37.5</td>
<td>150.0</td>
<td>900</td>
<td>0.170</td>
<td>0.7</td>
<td>248.9</td>
</tr>
<tr>
<td>Raw Material</td>
<td>4.0</td>
<td>1.0</td>
<td>4.0</td>
<td>20.0</td>
<td>80.0</td>
<td>900</td>
<td>0.170</td>
<td>0.7</td>
<td>248.9</td>
</tr>
<tr>
<td>Product Truck</td>
<td>9.0</td>
<td>1.0</td>
<td>9.0</td>
<td>20.0</td>
<td>180.0</td>
<td>900</td>
<td>0.170</td>
<td>1.5</td>
<td>559.9</td>
</tr>
<tr>
<td>Product Truck</td>
<td>9.0</td>
<td>1.0</td>
<td>9.0</td>
<td>37.5</td>
<td>337.5</td>
<td>900</td>
<td>0.170</td>
<td>1.5</td>
<td>559.9</td>
</tr>
</tbody>
</table>

Totals  8.0 230.0 1.4 497.7

\[
\text{Efficiency} = \frac{0}{0} \% \text{ (pursuant to control measures outlined in fugitive dust control plan)}
\]

Methodology

Total Weight = [Maximum Weight of Loaded Vehicle (tons/trip)] * [Maximum trips per day (trip/day)]

Maximum on = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]

Average Veh = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Introduction

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following Best Available Control Technology (BACT) review for the one (1) existing reactor No. 2, constructed in 1985 at an existing stationary polyester and acrylic resin source.

Prior to this application, the unlimited potential to emit VOC from the reactor was 1068.75 tons per year, which is greater than twenty-five (25) tons per year. In addition, the reactor was constructed after the applicability date of January 1, 1980 and is not subject to any other provision of 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56. As a result, reactor No. 2 should have been subject to the requirements of 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities). A BACT analysis is now being added. The unlimited potential to emit VOC from the reactor is still 1068.75 tons per year.

The following BACT analysis for the one (1) existing reactor No. 2 uses the “Top Down BACT Guidance” published by the U.S. EPA, Office of Air Quality Planning and Standards, March 15, 1990.

Description of Processes

The unit that is subject to 326 IAC 8-1-6 is as follows:

(d) One (1) reactor, identified as reactor No. 2, constructed in 1985, with a maximum capacity of 9,000 gallons, using the following for VOC control;

(1) One (1) natural gas-fired thermal oxidizer, using No. 2 fuel oil-fired as a back-up fuel, with a rated heat capacity of 8 MMBtu per hour, constructed in 1977 and used to control the two (2) reactors.

There are no physical modifications being made to reactor No. 2 as part of this BACT review. There are no new emission units.
BACT is a mass emission limitation based on the maximum degree of pollution reduction of emissions, which is achievable on a case-by-case basis. BACT analysis takes into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, work practices, and operational limitations.

Federal guidance on BACT requires an evaluation that follows a “top down” process. In this approach, the applicant identifies the best-controlled similar source on the basis of controls required by regulation or controls achieved in practice. The highest level of control is then evaluated for technical and economic feasibility.

The five (5) basic steps of a top-down BACT analysis are listed below:

**Step 1: Identify Potential Control Technologies**

The first step is to identify potentially “available” control options for each emission unit and for each pollutant under review. Available options should consist of a list of those technologies with a potentially practical application to the emissions unit in question. The list should include lowest achievable emission rate (LAER) technologies and controls applied to similar source categories.

**Step 2: Eliminate Technically Infeasible Options**

The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be documented based on physical, chemical, engineering, and source-specific factors related to safe and successful use of the controls. Innovative control means a control that has not been demonstrated in a commercial application on similar units. Only available and proven control technologies are evaluated. A control technology is considered available when there are sufficient data indicating that the technology results in confirmed reductions in emissions of regulated pollutants.

**Step 3: Rank the Remaining Control Technologies by Control Effectiveness**

The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of environmental, energy, and economic impacts specific to the proposed modification. If the analysis determines that the evaluated alternative is not appropriate as BACT due to any of the impacts, then the next most effective is evaluated. This process is repeated until a control alternative is chosen as BACT. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation.

**Step 4: Evaluate the Most Effective Controls and Document the Results**

The fourth step entails an evaluation of energy, environmental, and economic impacts for determining a final level of control. The evaluation begins with the most stringent control option and continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts.
Step 5: Select BACT

The fifth and final step is to select as BACT the most effective of the remaining technologies under consideration for each pollutant of concern. For the technologies determined to be feasible, there may be several different limits that have been set as BACT for the same control technology. The final BACT determination would be the technology with the most stringent corresponding limit that is economically feasible. BACT must be no less stringent than the level of control required by any applicable New Source Performance Standard (NSPS) and National Emissions Standard for Hazardous Air Pollutants (NESHAP) or state regulatory standards applicable to the emission units included in the permits.

The Office of Air Quality (OAQ) makes BACT determinations by following the five steps identified above.

A summary of the BACT review for the reactor No. 2 is provided below. This BACT determination is based on the following information:

1. The EPA RACT/BACT/LAER (RBLC) Clearinghouse;
2. State and local air quality permits; and
3. The BACT analysis submitted by AOC LLC on November 1, 2019.

VOC BACT Analysis

Step 1 – Identify All Potentially Available Control Options

Based on the information reviewed for this BACT determination, the following potentially available control technologies were identified for controlling VOC emissions from the reactor No. 2:

(a) Thermal Oxidizer:

Thermal oxidation is the process of oxidizing VOC in a waste gas stream by raising the temperature above the VOC's autoignition point in the presence of oxygen for sufficient time to completely oxidize the organic contaminants to carbon dioxide and water. The residence time, temperature, flow velocity and mixing, and the oxygen concentration in the combustion chamber affect the oxidation rate and destruction efficiency. Thermal oxidizers operating costs are relatively high, since they typically require combustion of an auxiliary fuel (e.g., natural gas) to maintain combustion chamber temperature high enough to completely oxidize the contaminant gases. In general, thermal oxidizers are less efficient at treating waste gas streams with highly variable flowrates, since the variable flowrate results in varying residence times, combustion chamber temperature, and poor mixing. In addition, thermal oxidizers are also not generally cost-effective for low-concentration, high-flow organic vapor streams.

Thermal oxidizers can achieve 95-99.99+% VOC control efficiency and can be used over a wide range of organic vapor concentrations, but perform best at inlet concentrations of around 1,500-3,000 ppmv. Thermal oxidizers are typically designed to have a residence time of 0.3 to 1.0 second and combustion chamber temperatures between 1,200 and 2,000°F. In order to meet 98% or greater control or a 20 parts per million by volume (ppmv) compound exit concentration of non-halogenated organics, thermal oxidizers should typically be operated at a residence time of at least 0.75 seconds, a combustion chamber temperature of at least 1600°F, and with proper mixing. While thermal oxidation provides efficient VOC control, other pollutants such as nitrogen oxides and carbon monoxide are formed from the combustion process.

Thermal oxidizers are not generally recommended for controlling gases containing halogen- or sulfur-containing compounds, because of the formation of hydrogen chloride, hydrogen fluoride gas, sulfur dioxide, and other highly corrosive acid gases. It may be necessary to install a post-oxidation acid gas treatment system in such cases, depending on the outlet concentration. This
would likely make incineration an uneconomical option. For halogenated VOC streams, a combustion temperature of 2000°F, a residence time of 1.0 second, and use of an acid gas scrubber on the outlet is recommended.

The three types of thermal oxidation systems include direct flame, recuperative, and regenerative thermal oxidizers, which are differentiated by the type of heat recovery equipment used.

(1) Direct Flame Thermal Oxidizer

A direct flame thermal oxidizer is comprised of a combustion chamber and does not include any heat recovery of exhaust air by a heat exchanger.

(2) Recuperative Thermal Oxidizer

A recuperative thermal oxidizer is comprised of the combustion chamber, a heat exchanger for preheating the untreated VOC gas stream, and, if cost-effective, a secondary energy recovery heat exchanger. In a recuperative thermal oxidizer, the untreated VOC gas stream entering the oxidizer is preheated using the heat content of the treated gas stream exiting the oxidizer using a heat exchanger, resulting in improved oxidizer efficiency and reduced auxiliary fuel usage. Recuperative thermal oxidizers usually are more economical than direct flame thermal oxidizers because they typically recover 40 to 70% of the waste heat from the exhaust gases.

(3) Regenerative Thermal Oxidizer

A regenerative thermal oxidizer typically consists of a set of 2 or 3 packed ceramic beds that are used to recover heat from hot combustion gases that are generated during combustion of the VOC gas stream and auxiliary fuel, resulting in improved oxidizer efficiency and reduced auxiliary fuel usage. An "inlet" bed is used to pre-heat the untreated VOC gas stream, an "outlet" bed is used to recover heat from the treated gas stream, and one bed is in a purge cycle. The purge cycle is needed to prevent emission spikes each time the gas flow is redirected. The oxidizer is operated on a rotating schedule, where the gas flow through the ceramic beds is redirected periodically using a set of gas flow dampers. Once the heat energy of the "inlet" ceramic bed has been depleted, the flow through the system is redirected so that the untreated VOC gas stream entering the oxidizer is directed through the previously heated "outlet" ceramic bed. Regenerative thermal oxidizers have much higher heat recovery efficiencies than recuperative thermal oxidizers, recovering 85 to 95% of the heat from the treated gas stream, and therefore have lower auxiliary fuel requirements. However, compared to direct flame and recuperative thermal oxidizers, regenerative thermal oxidizers typically have higher capital (equipment and installation) costs, are larger and heavier, and have higher maintenance costs.

(b) Flare:

Flaring is the process of oxidizing VOC in a waste gas stream by piping the waste gas to a remote, usually elevated location and burning it in a flame using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing. Flares are generally categorized in two ways: (1) by the height of the flare tip (i.e., ground or elevated), and (2) by the method of enhancing mixing at the flare tip (i.e., steam-assisted, air-assisted, pressure-assisted, or non-assisted). Flares can be used to control almost any VOC stream, and can typically handle large fluctuations in VOC concentration, flow rate, heating value, and inert species content. Flaring is appropriate for continuous, batch, and variable flow vent stream applications, but the primary use is that of a safety device used to control a large volume of pollutant resulting from upset conditions. Flares have primarily been used in large petroleum production, petroleum refineries, and chemical plants to control
waste gas streams containing low molecular weight VOC with high heating values.

A properly operated flare can achieve 98+% VOC control efficiency when controlling emission streams with heat contents greater than 300 British thermal units per standard cubic foot (Btu/scf). If the waste gas stream has a heat content less than 300 Btu/scf, auxiliary fuel must be introduced in sufficient quantity to make up the difference. The VOC destruction efficiency of a flare depends upon the waste gas characteristics (density, flammability, heating value, and VOC component autoignition temperatures) and the combustion zone conditions (temperature, residence time, mixing, and available oxygen). While flares can provide efficient VOC control, other pollutants such as nitrogen oxides (NOx) and carbon monoxide (CO) are formed from the combustion process. Flares are not generally recommended for controlling gases containing halogen- or sulfur-containing compounds, because of the formation of hydrogen chloride, hydrogen fluoride gas, sulfur dioxide, and other highly corrosive acid gases.

**Step 2 – Eliminate Technically Infeasible Control Options**

All control types are being evaluated.

**Step 3 – Rank Remaining Control Technologies by Control Effectiveness**

IDEM, OAQ has ranked the technically feasible control technologies and combinations of control technologies as follows:

(a) Thermal Oxidizer - 98%
(b) Flare - 98%

**Step 4 – Evaluate the Most Effective Controls and Document Results**

A review of EPA’s RACT/BACT/LAER Clearinghouse (RBLC) and Indiana Air Permits identified the following previous BACT determinations for sources that operate under the SIC Code 2821 (Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers) and other sources found by searching for keyword "plastic" in the RBLC.

The table below includes the proposed BACT and the previous BACT determination for AOC, LLC, and the following existing BACT determinations are arranged based on how stringent the BACT determination is. Therefore, the table lists the most stringent existing BACT determination at the top, which requires the use of an add-on control device and ends with the least stringent existing BACT determination, which does not require an add-on control device.

<table>
<thead>
<tr>
<th>Plant, Permit No., Date Issued and RBLC ID</th>
<th>Facility</th>
<th>Control used</th>
<th>VOC Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposed:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOC, LLC</td>
<td>Reactor No. 2</td>
<td>Thermal Oxidizer</td>
<td>99.75%</td>
</tr>
<tr>
<td><strong>Existing:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Industries LLC, 0820-0079.CA.R2, 10/31/2017 SC-0182</td>
<td>Vapor Phase Destruction System</td>
<td>Three boilers and three process heaters</td>
<td>99.7% DRE</td>
</tr>
<tr>
<td>Shintech Louisiana, LLC - Plaquemine Plant 1 PSD-LA-709(M-3) 5/2/2018 LA-0328</td>
<td>Reactor 2</td>
<td>No control</td>
<td>0.314 lb/MMlb</td>
</tr>
<tr>
<td>Plant, Permit No., Date Issued and RBLC ID</td>
<td>Facility</td>
<td>Control used</td>
<td>VOC Limits</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>Retac, LLC - Odessa Petrochemical Plant 16963, PADTX1478, GHGPSDI148 11/22/2016 TX-0813</td>
<td>Polypropylene Process Vents</td>
<td>Flare</td>
<td>Emission minimized by limited venting, and waste stream controlled by flare</td>
</tr>
</tbody>
</table>

AOC proposes to continue using a thermal oxidizer with a minimum of 99.75% control efficiency as BACT.

**BACT Conclusion**

The following are the detailed BACT requirements:

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) and FESOP Renewal No. 127-39976-00003, the Best Available Control Technology (BACT) for Reactor No. 2 shall be the following:

(a) The VOC emissions from the Reactor, identified as Reactor No. 2, shall be controlled by a thermal oxidizer.

(b) The overall control efficiency, including capture and destruction efficiency, shall be at least 99.75%, or the VOC outlet concentration shall not exceed 20 ppmv at 100% capture.
December 20, 2019

Mr. Jeff Miller  
AOC, LLC  
2552 Industrial Drive  
Valparaiso, IN  46383

Re:  Public Notice  
AOC, LLC  
Permit Level: FESOP - Renewal  
Permit Number: 127-39976-00003

Dear Mr. Miller:

Enclosed is a copy of your draft FESOP Renewal, Technical Support Document, emission calculations, and the Public Notice.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: https://www.in.gov/idem/5474.htm

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the Valparaiso Public Library, 103 Jefferson Street in Valparaiso, IN  46383. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Mena Mekhail, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-7434 or dial (317) 234-7434.

Sincerely,

Vicki Biddle  

Vicki Biddle  
Permits Branch  
Office of Air Quality

Enclosures  
PN Applicant Cover Letter 4/12/19
December 20, 2019

To: Valparaiso Public Library

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: Important Information to Display Regarding a Public Notice for an Air Permit

Applicant Name: AOC, LLC
Permit Number: 127-39976-00003

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. Please make this information readily available until you receive a copy of the final package.

If you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library updated 4/2019
Notice of Public Comment

December 20, 2019
AOC, LLC
127-39976-00003

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has posted on IDEM’s Public Notice website at https://www.in.gov/idem/5474.htm.

The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana’s Air Permitting Program.

Please Note: If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.
Mail Code 61-53

### IDEM Staff

<table>
<thead>
<tr>
<th>Name and address of Sender</th>
<th>Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name, Address, Street and Post Office Address</strong></td>
<td><strong>Postage</strong></td>
</tr>
<tr>
<td>Line</td>
<td>Article Number</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

**Total number of pieces Listed by Sender:** 14

**Total number of Pieces Received at Post Office:**

**Postmaster, Per (Name of Receiving employee):**

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of negotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on insured COD mail. See International Mail Manual for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.