NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a Significant Modification to and Renewal of a Part 70 Operating Permit

for Tate & Lyle Ingredients America, LLC in Tippecanoe County

Part 70 Operating Permit Renewal No.: T157-40694-00033
Significant Source Modification No.: 157-41643-00033

The Indiana Department of Environmental Management (IDEM) has received an application from Tate & Lyle Ingredients Americas, LLC, located at 3300 US 52 South, Lafayette, Indiana 47905, for a significant source modification and renewal of its Part 70 Operating Permit issued on August 14, 2014. If approved by IDEM’s Office of Air Quality (OAQ), this proposed permit would allow Tate & Lyle Ingredients America, LLC to make certain changes at its existing source. Tate & Lyle Ingredients America, LLC has applied to construct a cogeneration system.

The applicant intends to construct and operate new equipment that will emit air pollutants; therefore, the permit contains new or different permit conditions. In addition, 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). IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

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

Tippecanoe County Public Library
627 South St.
Lafayette, IN 47902

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 T157-40694-00033 and SSM 157-41643-00033 in all correspondence.

Comments should be sent to:

Doug Logan  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Doug Logan or (317) 234-5328  
Or dial directly: (317) 234-5328  
Fax: (317) 232-6749 att: Doug Logan  
E-mail: dlogan@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, 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 Doug Logan of my staff at the above address.

Brian Williams, Section Chief  
Permits Branch  
Office of Air Quality
Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Tate & Lyle Ingredients Americas, LLC
3300 US 52 South
Lafayette, Indiana 47905

(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. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.
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Combustion Turbines [40 CFR 63, Subpart YYYY]
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SECTION A  SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary corn wet milling plant.

<table>
<thead>
<tr>
<th>Source Address:</th>
<th>3300 US 52 South, Lafayette, Indiana 47905</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Source Phone Number:</td>
<td>(765) 477-5200</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2046 (Wet Corn Milling)</td>
</tr>
<tr>
<td>County Location:</td>
<td>Tippecanoe</td>
</tr>
<tr>
<td>Source Location Status:</td>
<td>Attainment for all criteria pollutants</td>
</tr>
<tr>
<td>Source Status:</td>
<td>Part 70 Operating Permit Program</td>
</tr>
<tr>
<td></td>
<td>Major Source, under PSD Rules</td>
</tr>
<tr>
<td></td>
<td>Major Source, Section 112 of the Clean Air Act</td>
</tr>
<tr>
<td></td>
<td>Nested Source with fossil fuel fired boilers totaling more than two hundred fifty million (250,000,000) British thermal units per hour heat input, as 1 of 28 Source Categories, within a non-listed source</td>
</tr>
</tbody>
</table>

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

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

(a) Corn Receiving and Handling Area, consisting of:

(1) One (1) Corn Receiving (Corn Unloading Dust Collector), identified as Unit ID LA-1, constructed in 1977 (modified in 1995), with a baghouse (531001) for particulate control, exhausting to stack 1.

(2) One (1) Corn Silo (Elevator Dust Collector), identified as Unit ID LA-2, constructed in 1977 (modified in 1995), with a baghouse (531003) for particulate control, exhausting to stack 2.

(3) Twelve (12) Corn Storage Silos, identified as Unit ID LA-78, constructed in 1977, with a total grain storage capacity of 543,000 bushels, with no emission control device, exhausting to stack 57.

(b) Corn Steeping and Milling Area, consisting of:

(1) One (1) South Pre-Steep Aspiration, identified as Unit ID LA-62A, constructed in 1995, with no emission control device, exhausting to stack 40.

(2) One (1) North Pre-Steep Aspiration, identified as Unit ID LA-62B, constructed in 1995, with no emission control device, exhausting to stack 41.

(3) One (1) Millhouse Aspiration Process, identified as Unit ID LA-70, constructed in 1977 (modified in 1995), with a scrubber (LAC-70) for SO2 and VOC control, exhausting to stack 4.
Feed House and Boiler House Area, consisting of:

1. One (1) natural gas/No. 2 fuel oil fired Zurn Boiler, identified as Unit ID LA-44, constructed in 1977, with a maximum heat input of 227 MMBtu/hr, with no emission control device, exhausting to stack 34.

   Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-44 is considered part of an existing affected source.

2. One (1) coal fired Riley Stoker Boiler, identified as Unit ID LA-45, constructed in 1977, with a maximum heat input of 239 MMBtu/hr, with a multiclone (539113) and an electrostatic precipitator (539115) for particulate control, with a scrubber (LAC-68) installed in 2015 for particulate, SO\textsubscript{2}, and HCl control, exhausting to stack 4.

   Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-45 is considered an existing affected source.

3. One (1) natural gas fired Cleaver Brooks Boiler, identified as Unit ID LA-46, constructed in 1980, with a maximum heat input of 49 MMBtu/hr, with no emission control device, exhausting to stack 5.

   Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-46 is considered part of an existing affected source.

4. One (1) natural gas/No. 2 fuel oil direct fired Fiber Dryer, identified as Unit ID LA-8, constructed in 1977 (modified in 1995 and 2004), with a maximum heat input of 58 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO\textsubscript{2}, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

5. One (1) natural gas/No. 2 fuel oil direct fired DSLC Dryer, identified as Unit ID LA-17A, constructed in 1977 (modified in 1995 and 2007), with a maximum heat input of 45 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO\textsubscript{2}, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

6. One (1) natural gas direct fired Gluten Dryer, identified as Unit ID LA-15, constructed in 1995, with a maximum heat input of 52 MMBtu/hr, using low NO\textsubscript{x} burners, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO\textsubscript{2}, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

7. One (1) steam heated Germ RST Pre-Dryer, identified as Unit ID LA-60, constructed in 1995, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-69) for particulate, SO\textsubscript{2}, and VOC control, with VOC emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

8. One (1) natural gas/No. 2 fuel oil direct fired GR Dryer, identified as Unit ID LA-47, constructed in 1977 (modified in 1995), with a maximum heat input of 55
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MBT/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-69) for particulate and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

9 One (1) steam heated Germ RST Finish Dryer No.3, identified as Unit ID LA-53, constructed in 1991 (modified in 1995), with a cyclone (not integral) for particulate control, with a scrubber (LAC-69) for particulate and VOC control, with VOC emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

10 One (1) Feedhouse Aspiration System, identified as Unit ID LA-71, constructed in 1977 (modified in 1995), with a scrubber (LAC-71) for SO2 and VOC control, exhausting to stack 4.

11 One (1) Feed Cooler and Cyclone, identified as Unit ID LA-17B, constructed in 1977 (modified in 1995), with an integral product collector/cyclone (534338) and scrubber (LAC-17B) for particulate control, exhausting to stack 4.

12 One (1) Cracked Corn to GR Conveyor Transfer Cyclone, identified as Unit ID LA-43, constructed in 1977 (modified in 1995), with an integral product collector/cyclone LAC-43) and a scrubber (LAC-17B) for particulate control, exhausting to stack 4.

13 Three (3) natural gas fired regenerative thermal oxidizers, identified as LAC-600, LAC-601, and LAC-602, constructed in 2015, controlling VOC and CO emissions from multiple units, with a heat input capacity of 16 MMBtu/hr natural gas, exhausting to stack 4.

(d) Feed Products Storage and Loadout Area, consisting of:

1 One (1) Cracked Corn Bin, identified as Unit ID LA-22, constructed in 1977, with a baghouse (LAC-22) for particulate control, exhausting to stack 3.

2 One (1) Gluten Airveyor System, identified as Unit ID LA-21, constructed in 1977, with a baghouse (LAC-21) for particulate control, exhausting to stack 10.

3 One (1) Germ Cooler Airveyor/Germ Loadout Bin, identified as Unit ID LA-18, constructed in 1977, with a baghouse (LAC-18) for particulate control, exhausting to stack 11.

4 One (1) Gluten Loadout, identified as Unit ID LA-21B, constructed in 2004, with a baghouse (LAC-21B) for particulate control, exhausting to stack 9.

5 One (1) Pellet Cooler #1, identified as Unit ID LA-79, constructed in 2004, with a cyclone (LAC-79) (not integral) for particulate control, exhausting to stack 58.

6 One (1) Combo Pellet Cooler, identified as Unit ID LA-63, constructed in 1995 (modified in 2004), with a cyclone (LAC-63) (not integral) for particulate control, exhausting to stack 42.

7 One (1) Pellet Cooler #4, identified as Unit ID LA-80, constructed in 2004, with a cyclone (LAC-80) (not integral) for particulate control, exhausting to stack 59.
(8) One (1) Pellet Cooler #5, identified as Unit ID LA-81, constructed in 2004, with a cyclone (LAC-81) (not integral) for particulate control, exhausting to stack 60.

(9) One (1) Pellet Storage Bin, identified as Unit ID LA-64, constructed in 1995 (modified in 2004), with an integral baghouse (LAC-64) for particulate control, exhausting to stack 43.

(10) One (1) Hammermill Aspiration Process, identified as Unit ID LA-77, constructed in 2000 (modified in 2004), with a scrubber (LAC-77) for particulate control, exhausting to stack 54.

(11) One (1) Feed Dump Aspiration System, identified as Unit ID LA-83, constructed in 2004, with a baghouse (LAC-83) for particulate control, exhausting to stack 62.

(e) Refinery Area, consisting of:

(1) One (1) Mud Centrifuges Vent #1, identified as Unit ID LA-72, constructed in 1977, with no emission control device, exhausting to stack 46.

(2) One (1) Mud Centrifuges Vent #2, identified as Unit ID LA-73, constructed in 1977, with no emission control device, exhausting to stack 47.

(3) One (1) Mud Centrifuges Vent #3, identified as Unit ID LA-74, constructed in 1977, with no emission control device, exhausting to stack 53.

(4) One (1) Jets Foam Trap, identified as Unit ID LA-75, constructed in 1977 (modified in 2000), with no emission control device, primarily exhausting to a heat recovery system, exhausting to stack 48 when not being routed through a heat recovery system.

(5) One (1) Soda Ash Unloading and Storage, identified as Unit ID LA-29, constructed in 1977 (modified in 1995), with a scrubber (LAC-29) for particulate control, exhausting to stack 19.

(6) Two (2) Hydrochloric Acid Storage Tanks, identified as Unit ID LA-41, constructed in 1977 (modified in 1995), with a scrubber (LAC-41) for voluntary HCl control, exhausting to stack 32.

(7) One (1) Hydrochloric Acid Supply Head Tank, identified as Unit ID LA-76, constructed in 1977 (modified in 1995), with a scrubber (LAC-76) for voluntary HCl control, exhausting to stack 50.

(8) One (1) Cation IX Drain Tank, identified as Unit ID LA-65A, constructed in 1977, with a scrubber (LAC-65A) for voluntary HCl control, exhausting to stack 51.

(9) One (1) Filter Aid Rail/Truck Unloading to Storage Bin, identified as Unit ID LA-31, constructed in 1977, approved in 2018 to replace baghouse (LAC-31A) with baghouse (LAC-31) for particulate control, exhausting to stack 20.

(10) One (1) Filter Aid Transfer from Storage Bins to Weighing Hopper, identified as Unit ID LA-32, constructed in 1977, with a baghouse (LAC-32) for particulate control, exhausting to stack 21.
(11) One (1) MBS Aspiration System, identified as Unit ID LA-61, constructed in 1977 (modified in 1995), with a scrubber (LAC-61) for SO₂ control, exhausting to stack 49.

(12) One (1) natural gas/No. 2 fuel oil fired Carbon Reactivation Furnace, identified as Unit ID LA-28, constructed in 1977, with a maximum heat input of 22 MMBtu/hr, with a scrubber (LAC-28) for particulate control, exhausting to stack 33 and then to stack 33A.

(13) One (1) Krystal Dryer/Cooler System No. 1, identified as Unit ID LA-51, constructed in 1987 (modified in 2007 and 2015), with two integral cyclones/product collectors (53L605) and a wet scrubber (LAC-51) for particulate control, exhausting to stack 35.

(14) One (1) natural gas-fired Carbon Reactivation Furnace, identified as Unit ID LA-28B, constructed in 2007, with a maximum heat input of 15 MMBtu/hr, with a wet scrubber (LAC-28B) for particulate and SO₂ control, with an afterburner (LAC-28BB) for VOC and CO for control, exhausting to stack 33B and then to stack 33A.

(15) One (1) Spent Filter Aid Aspiration System, identified as LA-52, approved in 2014 for installation, with a baghouse (LAC-52) for particulate control, exhausting to stack 52, with emissions from:

(A) One (1) Filter Aid Mixer, identified as 526302.

(B) One Filter Aid Mixer Box Discharge Conveyor, identified as 566303.

(16) One (1) Krystal Dryer/Cooler System No. 2, identified as Unit ID LA-51A, approved in 2015 for construction, with two cyclones/product collectors and a wet scrubber (LAC-51A) for particulate control, exhausting to stack 35A, with emissions from:

(A) One (1) dryer/cooler, identified as Krystal Dryer/Cooler No. 2 (47L6XX), approved in 2015 for construction.

(B) One (1) Sweco aspiration system, with emissions from:

(i) Three (3) Sweco units, identified as Krystal Sweco No.1 (51L7XX), Krystal Sweco No.2 (51L7XX), and Krystal Sweco No.3 (51L7XX), approved in 2015 for construction.

(17) One (1) bagger aspiration system, servicing both Krystal Dryer/Cooler System No. 1 and Krystal Dryer/Cooler System No. 2, with emissions from:

(A) One (1) existing bagger, identified as Tote Bagger (59L710).

(B) One (1) bagger, identified as Bagger (59L735), approved in 2015 for construction.

(C) One (1) bagger head hopper, identified as Bagger Head Hopper (45L732), approved in 2015 for construction.
Note: The bagger aspiration system can be routed to either dryer/cooler system, No. 1 or No. 2. Normal practice will be to route the bagger system to dryer/cooler No. 1.

(18) One (1) Krystar Transportation Aspiration System, identified as Unit ID LA-51B, approved in 2015 for construction, with a wet scrubber (LAC-51B) for particulate control, exhausting to stack 35B, with emissions from:

(A) One (1) existing receiver, identified as Dense Phase Receiver (43L44).

(B) One (1) existing bin, identified as Scalper Receiver Bin (45L707).

(C) One (1) bin, identified as Scalper Receiver Bin (45L730), approved in 2015 for construction.

(D) One (1) receiver, identified as Sweco Receiver (45L7XX), approved in 2015 for construction.

(E) Three (3) bins, identified as Product Bin No. 1 (45L7XX), Product Bin No. 2 (45L7XX), and Product Bin No. 3 (45L7XX), approved in 2015 for construction.

(f) Coal and Ash Storage and Handling Area, consisting of:

(1) One (1) Coal Unloading Building Aspiration System, identified as Unit ID LA-33, constructed in 1977, with a baghouse (LAC-33) for particulate control, exhausting to stack 22.

Under the NSPS, 40 CFR 60, Subpart Y, LA-33 is considered an affected facility.

(2) One (1) Crusher and Transfer Building Aspiration System, identified as Unit ID LA-34, constructed in 1977, with a baghouse (LAC-34) for particulate control, exhausting to stack 23.

Under the NSPS, 40 CFR 60, Subpart Y, LA-34 is considered an affected facility.

(3) One (1) Coal Storage Silos Top Aspiration System, identified as Unit ID LA-35, constructed in 1977, with a baghouse (LAC-35) for particulate control, exhausting to stack 24.

Under the NSPS, 40 CFR 60, Subpart Y, LA-35 is considered an affected facility.

(4) One (1) Coal Storage Silos Bottom Aspiration System, identified as Unit ID LA-36, constructed in 1977, with a baghouse (LAC-36) for particulate control, exhausting to stack 25.

Under the NSPS, 40 CFR 60, Subpart Y, LA-36 is considered an affected facility.

(5) One (1) Utility Building Aspiration System #1, identified as Unit ID LA-37, constructed in 1977, with a baghouse (LAC-37) for particulate control, exhausting to stack 26.

Under the NSPS, 40 CFR 60, Subpart Y, LA-37 is considered an affected facility.
(6) One (1) Utility Building Aspiration System #2, identified as Unit ID LA-38, constructed in 1977, with a baghouse (LAC-38) for particulate control, exhausting to stack 27.

Under the NSPS, 40 CFR 60, Subpart Y, LA-38 is considered an affected facility.

(7) One (1) Coal Silo Aspiration System, identified as Unit ID LA-55, constructed in 1977, with a rotoclone (LAC-55) for particulate control, exhausting to stack 28.

Under the NSPS, 40 CFR 60, Subpart Y, LA-55 is considered an affected facility.

(8) One (1) Coal Bunkers Aspiration, identified as Unit ID LA-56, constructed in 1977, with a rotoclone (LAC-56) for particulate control, exhausting to stack 29.

Under the NSPS, 40 CFR 60, Subpart Y, LA-46 is considered an affected facility.

(9) One (1) Coal Ash Transfer System, identified as Unit ID LA-42A, constructed in 1977, with a baghouse (LAC-42A) for particulate control, exhausting to stack 30B.

(10) One (1) Ash Silo East Aeration Vent, identified as Unit ID LA-42B East, constructed in 1977 and approved in 2016 for modification, controlled by a bin vent, identified as LAC-42B East.

(11) One (1) Ash Silo West Aeration Vent, identified as Unit ID LA-42B West, constructed in 1977 and approved in 2016 for modification, controlled by a bin vent, identified as LAC-42B West.

(g) A cogeneration system, approved in 2019 for construction, as follows:

(1) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #1 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #1 is a new affected source.

(2) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:
(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #2 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #2 is a new affected source.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

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

(a) Combustion related activities, as follows:

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

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

(B) Propane or liquefied petroleum gas or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) British thermal units per hour.

(C) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing equal to or less than five-tenths percent (0.5%) sulfur by weight.

(2) Combustion source flame safety purging on startup.

(b) Fuel dispensing activities as follows:

(1) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons, as follows:

(A) One (1) gasoline dispensing tank, with a maximum capacity of 550 gallons.

(2) A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less, as follows:
(A) One (1) diesel fuel dispensing tank, with a maximum capacity of 2,500 gallons.

(B) One (1) diesel fuel dispensing tank, with a maximum capacity of 550 gallons.

(C) One (1) kerosene tank, with a maximum capacity of 330 gallons.

c) The following VOC and HAP storage containers:
   
   (1) Vessels storing the following:

   (A) Lubricating oils.
   (B) Hydraulic oils.
   (C) Machining oils.
   (D) Machining fluids.

(d) Refractory storage not requiring air pollution control equipment.

(e) Equipment used exclusively for the following:

   (1) Filling drums, pails, or other packaging containers with the following:

   (A) Lubricating oils.
   (B) Greases.

(f) Production related activities, including the following:

   (1) Application of the following as temporary protective coatings:

   (A) Oils.
   (B) Greases.
   (C) Lubricants.
   (D) Nonvolatile material

   (2) Cleaners and solvents characterized as having a vapor pressure equal to or less than:

   (A) two (2.0) kilo Pascals (fifteen (15) millimeters of mercury or three-tenths
       (0.3) pound per square inch) measured at thirty-eight (38) degrees
       Centigrade (one hundred (100) degrees Fahrenheit); or
   (B) seven-tenths (0.7) kilo Pascal (five (5) millimeters of mercury or one-
       tenth (0.1) pound per square inch) measured at twenty (20) degrees
       Centigrade (sixty-eight (68) degrees Fahrenheit); the use of which, for all
       cleaners and solvents combined, does not exceed one hundred forty-five
       (145) gallons per twelve (12) months.

   (3) Closed loop heating and cooling systems.

(g) Water based activities, including the following:

   (1) Activities associated with the treatment of wastewater streams with an oil and
       grease content less than or equal to one percent (1%) by volume.
   (2) Any operation using aqueous solutions containing less than or equal to one
       percent (1%) by weight of VOCs excluding HAPs.
(3) Water based adhesives that are less than or equal to five percent (5%) by volume of VOCs excluding HAPs.

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

(A) Forced and induced draft cooling tower systems not regulated under a NESHAP.

(h) Repair activities, including the following:

(1) Replacement or repair of electrostatic precipitators, bags in baghouses, and filters in other air filtration equipment.
(2) Heat exchanger cleaning and repair.
(3) Process vessel degassing and cleaning to prepare for internal repairs.

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

(j) Conveyors as follows:

(1) Underground conveyors.

(k) Coal bunker and coal scale exhausts and associated dust collector vents.

Under the NSPS, 40 CFR 60, Subpart Y, coal storage systems, transfer, and loading systems are affected facilities.

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

(1) Purging of gas lines.
(2) Purging of vessels.

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

(1) Tanks.
(2) Fluid handling equipment.

(n) Blowdown for the following:

(1) Boiler.
(2) Cooling tower.
(3) Compressors.

(o) Activities associated with emergencies as follows:

(1) On-site fire training approved by IDEM.
(2) Emergency generators as follows:

(A) One (1) diesel-fueled, compression-ignition emergency generator, identified as LA-603, manufactured and installed in 1976, with a site rating of 938 HP.
Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the emergency generator is considered an existing affected source.

(3) Stationary fire pump engines as follows:

(A) One (1) diesel-fueled, compression-ignition emergency fire pump, identified as LA-604, manufactured and installed in 1976, with a site rating of 258 HP.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the emergency fire pump is considered an existing affected source.

(p) Vents from ash transport systems not operated at positive pressure.

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

(r) An emission unit or activity whose potential uncontrolled emissions meet the exemption levels specified in 326 IAC 2-1.1-3(e)(1) or the exemption levels specified in the following, whichever is lower:

- For lead or lead compounds measured as elemental lead, the exemption level is six-tenths (0.6) ton per year or three and twenty-nine hundredths (3.29) pounds per day.
- For carbon monoxide (CO), the exemption limit is twenty-five (25) pounds per day.
- For sulfur dioxide, the exemption level is five (5) pounds per hour or twenty-five (25) pounds per day.
- For VOC, the exemption limit is three (3) pounds per hour or fifteen (15) pounds per day.
- For nitrogen oxides (NOx), the exemption level is five (5) pounds per hour or twenty-five (25) pounds per day.
- For PM10 or direct PM2.5, the exemption level is either five (5) pounds per hour or twenty-five (25) pounds per day.

As follows:

1. Light Steepwater Tank #1, exhausting to stack 1.
2. Light Steep/Heavy SW Surge Water #2, exhausting to stack 2.
3. Steephouse Syrup Evap MR #1 - Condensate Receiver #1 and 2, exhausting to stack 3.
5. Steepwater Finisher Intercondenser Vent (HSW Triple Vent), exhausting to stack 5.
7. Steepwater Truck Loadout, exhausting to stack 7.
8. Starch/Gluten Loadout, exhausting to stack 8.
9. Starch Tank #3 (West), exhausting to stack 9.
10. Starch Tank #2 (East), exhausting to stack 10.
11. Heavy Steepwater Tank #2, exhausting to stack 11.
12. Salt Storage Tank, exhausting to stack 12.
15. Waste Heat Evaporator Hot Water Tank, exhausting to stack 15.
17. Centrifuge Supply Tank, exhausting to stack 17.
(18) Four (4) Carbon Charge Tanks

(19) 6 Line Pre-Thinning Surge and Pre-Thinning Tanks Vent, exhausting to stack 18.

(20) 6 Line Pre-Thin Tank Vent, exhausting to stack 19.

(21) 6 Line Enzyme Liquefaction Reactor (1st stage), exhausting to stack 20.

(22) 6 Line Enzyme Liquefaction Reactor (2nd stage), exhausting to stack 21.

(23) 7 Line Pre-Thinning Surge and Pre-Thinning Tanks Vent, exhausting to stack 22.

(24) 7 Line Pre-Thin Tank Vent, exhausting to stack 23.

(25) 7 Line Enzyme Liquefaction Reactor (1st stage), exhausting to stack 24.

(26) 7 Line Enzyme Liquefaction Reactor (2nd stage), exhausting to stack 25.

(27) Refinery Rotovac - 6 line Filtrate Vacuum Pump, exhausting to stack 26.

(28) Refinery Rotovac - 7 line Filtrate Vacuum Pump, exhausting to stack 27.

(29) Saccharification Tank 10, exhausting to stack 28.

(30) Saccharification Tank 11, exhausting to stack 29.

(31) Pre-Strainer Surge Tank, exhausting to stack 30.

(32) Saccharification Tank 12, exhausting to stack 31.

(33) Saccharification Tank 13, exhausting to stack 32.

(34) Saccharification Tank 14, exhausting to stack 33.

(35) Saccharification Tank 15, exhausting to stack 34.

(36) 68 Finish Evaporator Main Barometric Steam Ejector Vent, exhausting to stack 35.

(37) 68/78 Heat Reclalm SR 95 - 180/205 deg F Heat Exchangers Vents, exhausting to stack 36.

(38) Carbon Furnace Shaft Cooling Air Vent, exhausting to stack 37.

(39) Boiler Water Reclalm Heat Exchangers Vent, exhausting to stack 38.

(40) 75 Syrup Evaporator (MR) Condensate Receiver, exhausting to stack 39.

(41) 65 Syrup Evaporator (MR) Condensate Receiver (vented to 75 tank normally), exhausting to stack 40.

(42) Jet Vapor Condensate Tank & Refinery Hot Well Tank, exhausting to stack 41.

(43) 68 & 78 Evaps Noncondensibles & Hot Well Tank Vent, exhausting to stack 42.

(44) 68 Evap Preheater Heat Reclalm Heat Exchanger Vent, exhausting to stack 43.

(45) Hot Water Tank, exhausting to stack 44.

(46) ISOM (Syrup) Surge Tank, exhausting to stack 45.

(47) 5500 (Syrup) Storage Tank, exhausting to stack 46.

(48) 5500 (Syrup) Storage Tank, exhausting to stack 47.

(49) Resin Tank Scrubber Vent, exhausting to stack 48.

(50) 5500 Steam Condensate Weir, exhausting to stack 49.

(51) Soda Ash Head Tank, exhausting to stack 52. (out of service)

(52) Starch Vapor Preheater Non Condensibles Vent, exhausting to stack 53.

(53) Starch Preheater Seal Tank, exhausting to stack 54.

(54) Krystar Steam Condensate Weir, exhausting to stack 55.

(55) Krystar Evaporator Non-Condensibles Vents, exhausting to stack 56.

(56) South Condenser Vacuum Pump Separator Condenser Vent, exhausting to stack 57.

(57) North Condenser Vacuum Pump Separator Condenser Vent, exhausting to stack 58.

(58) Laboratory Fume Hood Vents (7 total), exhausting to stack 70.

(59) No. 2 Fuel Oil Storage Tank, constructed in 1977, with a capacity of 200,000 gallons, exhausting to stack 60.

(60) Germ Day Bin, exhausting to stack 61.

(61) Flammable Liquids Storage Vent (laboratory), exhausting to stack 69.

(62) Ejector Service Condenser Vents (46L215 & 46L219), exhausting to stack 62.

(63) Vertical Transfer Pump Vent, exhausting to stack 63.

(64) Seed Transfer Pump Vent, exhausting to stack 65.

(65) Fractionation IX Relief Vent, exhausting to stack 66.

(66) Sub IX Relief Vent, exhausting to stack 67.
(67) Crystalline Dextrose Fractionization Vacuum Pump, exhausting to stack 68.
(68) One (1) sulfur burning system, approved in 2018 for construction to replace the existing sulfur dioxide storage system utilized in providing sulfur dioxide to the processes, SO₂ adsorption and the acid making towers, will be controlled by the existing Millhouse Aspiration Process Scrubber (LAC-70), consisting of:

(A) sulfur burner
(B) molten sulfur storage tank
(C) SO₂ adsorption tower
(D) acid making tower

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

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

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

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

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

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

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

(a) This permit, T157-40694-00033, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.
B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

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

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

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

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

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

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

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

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

and

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

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

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

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

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(A) A description of the emergency;
(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to T157-40694-00033 and issued pursuant to permitting programs approved into the state implementation plan have been either:

1. incorporated as originally stated,

2. revised under 326 IAC 2-7-10.5, or

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

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

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

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).
B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination

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

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

(1) That this permit contains a material mistake.

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

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

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

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

B.16 Permit Renewal

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

Request for renewal shall be submitted to:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

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

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

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

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

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

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

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

(3) Any change in emissions; and

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

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

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
(d) **Alternative Operating Scenarios [326 IAC 2-7-20(d)]**
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.

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

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**B.20 Source Modification Requirement [326 IAC 2-7-10.5]**
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

**B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]**
Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

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

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

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

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

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

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

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

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

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

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

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

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

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

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

Emission Limitations and Standards  [326 IAC 2-7-5(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 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.3 Open Burning  [326 IAC 4-1][IC 13-17-9]

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

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

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

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

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

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

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

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

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

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

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

2. If there is a change in the following:
   
   (A) Asbestos removal or demolition start date;
   
   (B) Removal or demolition contractor; or
   
   (C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

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

(e) Procedures for Asbestos Emission Control

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

(f) Demolition and Renovation

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

(g) Indiana Licensed Asbestos Inspector

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

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

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

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

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

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

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

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

Compliance Requirements  [326 IAC 2-1.1-11]

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

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

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

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

(a) For new units:

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

(b) For existing units:

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

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

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

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

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

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment, as required in Sections D or E of this permit. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

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

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

C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 3-5]

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

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.
(d) Whenever a continuous emission monitoring system is down for more than twenty-four (24) hours, the Permittee shall follow good air pollution control practices.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous monitoring system pursuant to 326 IAC 3-5 or any applicable requirements.

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

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

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

C.14 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

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

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

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

C.15 Emergency Reduction Plans [326 IAC 1-5-2][326 IAC 1-5-3]

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

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

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

C.16 Risk Management Plan [326 IAC 2-7-5(12)][40 CFR 68]

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

C.17 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]

(I) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, 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.

(II) CAM Response to excursions or exceedances.

(a) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

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

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

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

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

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

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

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

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

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

(h) **CAM recordkeeping requirements.**

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

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

C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

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

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

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

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

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

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

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

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

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

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

C.20 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6][326 IAC 2-2][326 IAC 2-3]

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

(AA) All calibration and maintenance records.

(BB) All original strip chart recordings for continuous monitoring instrumentation.

(CC) Copies of all reports required by the Part 70 permit.

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

(AA) The date, place, as defined in this permit, and time of sampling or measurements.

(BB) The dates analyses were performed.

(CC) The company or entity that performed the analyses.

(DD) The analytical techniques or methods used.

(EE) The results of such analyses.

(FF) The operating conditions as existing at the time of sampling or measurement.

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

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

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

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

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

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

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

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

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

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

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

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

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:
(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

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

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

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

(b) The address for report submittal is:

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

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

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

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

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

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

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

(1) The name, address, and telephone number of the major stationary source.
(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

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

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

Reports required in this part shall be submitted to:

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

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

Stratospheric Ozone Protection

C.22 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.0  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c)  Feed House and Boiler House Area, consisting of:

(2)  One (1) coal fired Riley Stoker Boiler, identified as Unit ID LA-45, constructed in 1977, with a maximum heat input of 239 MMBtu/hr, with a multiclone (539113) and an electrostatic precipitator (539115) for particulate control, with a scrubber (LAC-68) installed in 2015 for particulate, SO₂, and HCl control, exhausting to stack 4.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-45 is considered an existing affected source.

(g)  A cogeneration system, approved in 2019 for construction, as follows:

(1)  Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

(A)  One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #1 is a new affected source.

(B)  One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #1 is a new affected source.

(2)  Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:

(A)  One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #2 is a new affected source.

(B)  One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #2 is subject to the subpart.
Under the NESHAP, 40 CFR 63, Subpart DDDD, HRSG #2 is a new affected source.

(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 2-7-5(1)]**

**D.0.1 Riley Stoker Boiler and Cogen System PSD Limits [326 IAC 2-2]**

Pursuant to SSM No. 157-41643-00003, upon the startup, as defined at 40 CFR 60.2, of either cogeneration unit, LA-84 or LA-85, the Permittee shall comply with the following limits:

(a) The total combined PM\(_{10}\) emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 47.84 tons per twelve consecutive month period with compliance determined at the end of each month.

(b) The total combined PM\(_{2.5}\) emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 49.73 tons per twelve consecutive month period with compliance determined at the end of each month.

(c) The total combined NO\(_x\) emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 440.44 tons per twelve consecutive month period with compliance determined at the end of each month.

(d) The limits in paragraphs (a) - (c) shall cease to be effective after the date that the coal-fired Riley Stoker boiler, identified as LA-45, and related coal support operations and equipment are made incapable of operation.

Compliance with these limits, when combined with contemporaneous increases and decreases at the source, shall limit the net emissions increase from the Cogeneration Turbine Project to less than fifteen (15) tons of PM\(_{10}\), ten (10) tons of PM\(_{2.5}\), and forty (40) tons of NO\(_x\) per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to SSM No. 157-41643-00003 for PM\(_{10}\), PM\(_{2.5}\), and NO\(_x\).

**Compliance Determination Requirements [326 IAC 2-7-5(1)]**

**D.0.2 Particulate Matter (PM\(_{10}/PM_{2.5}\)) Emissions Determination**

(a) In order to demonstrate compliance with Condition D.0.1(a), the Permittee shall determine PM\(_{10}\) emissions according to the following equation:

\[
E_{P10} = \frac{(Q_{45} \times P_{45}) + (Q_{T84} \times P_{10-T84}) + (Q_{H84} \times P_{10-H84}) + (Q_{T85} \times P_{10-T85}) + (Q_{H85} \times P_{10-H85})}{2,000 \text{ lb/ton}}
\]

Where

- \( E_{P10} \) = Monthly PM\(_{10}\) emissions, tons/month
- \( Q_{45} \) = Monthly heat input to LA-45, MMBtu/month
- \( P_{45} \) = LA-45 PM emissions limit, lb/MMBtu
  = 0.04 lb/MMBtu or the value determined in the most recent approved stack test
- \( Q_{T84} \) = Monthly heat input to the LA-84 turbine, MMBtu/month
- \( P_{10-T84} \) = LA-84 turbine PM\(_{10}\) emission factor, lb/MMBtu
  = 0.0105 lb/MMBtu or the value determined in the most recent approved stack test
- \( Q_{H84} \) = Monthly heat input to the LA-84 HRSG, MMBtu/month
(b) In order to demonstrate compliance with Condition D.0.1(b), the Permittee shall determine PM\textsubscript{2.5} emissions according to the following equation:

$$E_{PM2.5} = \frac{(Q_{45} \times P_{45}) + (Q_{T84} \times P_{2.5-T84}) + (Q_{H84} \times P_{2.5-H84}) + (Q_{T85} \times P_{2.5-T85}) + (Q_{H85} \times P_{2.5-H85})}{2000 \text{ lb/ton}}$$

Where $E_{PM2.5}$ = Monthly PM\textsubscript{2.5} emissions, tons/month  
$Q_{45}$ = Monthly heat input to LA-45, MMBtu/month  
$P_{45}$ = LA-45 PM emissions limit, lb/MMBtu  
= 0.04 lb/MMBtu or the value determined in the most recent approved stack test  
$Q_{T84}$ = Monthly heat input to the LA-84 turbine, MMBtu/month  
$P_{2.5-T84}$ = LA-84 turbine PM\textsubscript{2.5} emission factor, lb/MMBtu  
= 0.0105 lb/MMBtu or the value determined in the most recent approved stack test  
$Q_{H84}$ = Monthly heat input to the LA-84 HRSG, MMBtu/month  
$P_{2.5-H84}$ = LA-84 HRSG PM\textsubscript{2.5} emission factor, lb/MMBtu  
= 0.0156 lb/MMBtu or the value determined in the most recent approved stack test  
$Q_{T85}$ = Monthly heat input to the LA-85 turbine, MMBtu/month  
$P_{2.5-T85}$ = LA-85 turbine PM\textsubscript{2.5} emission factor, lb/MMBtu  
= 0.0105 lb/MMBtu or the value determined in the most recent approved stack test  
$Q_{H85}$ = Monthly heat input to the LA-85 HRSG, MMBtu/month  
$P_{2.5-H85}$ = LA-85 HRSG PM\textsubscript{2.5} emission factor, lb/MMBtu  
= 0.0156 lb/MMBtu or the value determined in the most recent approved stack test

(c) In order to demonstrate compliance with Condition D.0.1(c), the Permittee shall determine NOx emissions according to the following equation:

$$E_{NOX} = \frac{(T_{45} \times N_{45}) + (Q_{T84} \times N_{T84}) + (Q_{H84} \times N_{H84}) + (Q_{T85} \times N_{T85}) + (Q_{H85} \times N_{H85})}{2000 \text{ lb/ton}}$$

Where $E_{NOX}$ = Monthly NOx emissions, tons/month  
$T_{45}$ = Monthly LA-45 coal consumption, tons/month  
$N_{45}$ = LA-45 NOx emission factor, lb/ton  
= 11.0 lb/ton  
$Q_{T84}$ = Monthly heat input to the LA-84 turbine, MMBtu/month  
$N_{T84}$ = LA-84 turbine NOx emission factor, lb/MMBtu  
= 0.0921 lb/MMBtu or the results from a qualified NOx CEMs  
$Q_{H84}$ = Monthly heat input to the LA-84 HRSG, MMBtu/month  
$N_{H84}$ = LA-84 HRSG NOx emission factor, lb/MMBtu
Record Keeping and Reporting Requirements  [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.0.3 Record Keeping Requirements

(a) To document the compliance status with Condition D.0.1, the Permittee shall maintain records of the following:

(1) Monthly heat input to LA-45, in MMBtu/month
(2) Monthly coal consumption in LA-45, in tons/month
(3) Monthly heat input to the LA-84 turbine, in MMBtu/month
(4) Monthly heat input to the LA-84 HRSG, in MMBtu/month
(5) Monthly heat input to the LA-85 turbine, in MMBtu/month
(6) Monthly heat input to the LA-85 HRSG, in MMBtu/month

(b) The provisions in paragraph (a) shall cease to be effective after the date that the coal-fired Riley Stoker boiler, identified as LA-45, is made incapable of operation.

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

D.0.4 Reporting Requirements

(a) A quarterly report of PM$_{10}$ emissions and a quarterly summary of the information to document the compliance status with Condition D.0.1(a) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(b) A quarterly report of PM$_{2.5}$ emissions and a quarterly summary of the information to document the compliance status with Condition D.0.1(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(c) A quarterly report of NOx emissions and a quarterly summary of the information to document the compliance status with Condition D.0.1(c) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(d) The provisions of paragraphs (a) - (c) shall cease to be effective after the date that the coal-fired Riley Stoker boiler, identified as LA-45, is made incapable of operation.

(e) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
SECTION D.1  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:
(a) Corn Receiving and Handling Area, consisting of:
   (1) One (1) Corn Receiving (Corn Unloading Dust Collector), identified as Unit ID LA-1, constructed in 1977 (modified in 1995), with a baghouse (531001) for particulate control, exhausting to stack 1.
   (2) One (1) Corn Silo (Elevator Dust Collector), identified as Unit ID LA-2, constructed in 1977 (modified in 1995), with a baghouse (531003) for particulate control, exhausting to stack 2.
   (3) Twelve (12) Corn Storage Silos, identified as Unit ID LA-78, constructed in 1977, with a total grain storage capacity of 543,000 bushels, with no emission control device, exhausting to stack 57.

(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 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]
(a) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0350, issued on February 5, 1986, particulate emissions from LA-1 and LA-2 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>0.84</td>
<td>1.7</td>
</tr>
<tr>
<td>LA-2</td>
<td>0.36</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(b) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 28, 2004, PM and PM$_{10}$ emissions from LA-1 and LA-2 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>1.89</td>
<td>1.89</td>
</tr>
<tr>
<td>LA-2</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM$_{10}$ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM$_{10}$. 
D.1.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) Pursuant to Part 70 Operating Permit Renewal No. 157-27033-00033, issued August 14, 2014, the particulate emission rate from LA-78 shall not exceed 1.84 pounds per hour.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from LA-1, LA-2 and LA-78 shall not exceed a calculated pound per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with one of the following equations:

(1) 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

Or

(2) Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

\[ E = 55.0 P^{0.11} - 40 \]

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

The PM limits for LA-1 and LA-2 in Condition D.1.1 and the PM limit for LA-78 in Condition D.1.2(a) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rates for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.1.4 Particulate Control

(a) In order to ensure compliance with Conditions D.1.1 and D.1.2, the baghouses (531001 and 531003) for particulate control shall be in operation and control emissions from LA-1 and LA-2 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.

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

D.1.5 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of LA-1 and LA-2 stack exhaust (stacks 1 and 2) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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. Failure to take response steps shall be considered a deviation from this permit.

D.1.6 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

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

D.1.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.5, the Permittee shall maintain records of the once per day visible emission notations from stacks 1 and 2. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

**(b) Corn Steeping and Milling Area, consisting of:**

1. **One (1) South Pre-Steep Aspiration**, identified as Unit ID LA-62A, constructed in 1995, with no emission control device, exhausting to stack 40.

2. **One (1) North Pre-Steep Aspiration**, identified as Unit ID LA-62B, constructed in 1995, with no emission control device, exhausting to stack 41.

3. **One (1) Millhouse Aspiration Process**, identified as Unit ID LA-70, constructed in 1977 (modified in 1995), with a scrubber (LAC-70) for SO\textsubscript{2} and VOC control, exhausting to stack 4.

*(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 2-7-5(1)]

#### D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as amended on April 5, 1995, the SO\textsubscript{2} emissions from LA-62A and LA-62B shall not exceed 1.37 pounds per hour combined.

Compliance with this limit, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of SO\textsubscript{2} from the modification to less than forty (40) tons of SO\textsubscript{2} per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for SO\textsubscript{2}.

(b) LA-70:

1. Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0351, issued on February 5, 1986, SO\textsubscript{2} emissions from LA-70 shall not exceed 14.18 pounds per hour and 62.1 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

2. Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, the total SO\textsubscript{2} emissions from scrubbers LAC-70 and LAC-71 (controlling emissions from the millhouse and feedhouse, respectively) shall not exceed 12.85 pounds per hour and the concentration of SO\textsubscript{2} in each exhaust shall not exceed 17 ppm.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of SO\textsubscript{2} from the modification to less than forty (40) tons of SO\textsubscript{2} per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for SO\textsubscript{2}.
D.2.2 Preventive Maintenance Plan  [326 IAC 2-7-5(12)]

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

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

D.2.3 Sulfur Dioxide Control

In order to ensure compliance with Condition D.2.1(b), the scrubber (LAC-70) shall be in operation and control SO₂ emissions from LA-70 at all times that the millhouse aspiration process (LA-70) facility is in operation.

D.2.4 Testing Requirements  [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.2.1(b)(2) and D.3.2(c)(2), the Permittee shall perform SO₂ testing on the outlets of scrubbers LAC-70 and LAC-71 utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

D.2.5 Scrubber Monitoring  [40 CFR 64]

(a) The Permittee shall monitor and record the pH in the scrubber (LAC-70) controlling emissions from LA-70 every hour when the associated process is in operation. When for any one reading, the pH in the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH greater than or equal to 5.0 and the lowest average of twelve (12) consecutive once per hour measurements determined once per day greater than or equal to 7. A reading that is below the above mentioned pH minimum or outside the average pH range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the scrubber recirculation rate of the scrubber (LAC-70) controlling emissions from LA-70 at least once per day when the associated process is in operation. When for any one reading, the scrubber recirculation rate is below the normal minimum, the Permittee shall take a reasonable response. The normal minimum for this unit is 780 gallons per minute, unless a different minimum flow rate is determined during the latest compliant stack test. A reading that is below the above mentioned minimum scrubber recirculation rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

D.2.6 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

(a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
(b) For a scrubber controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.2.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.5(a), the Permittee shall maintain hourly records of the pH of the scrubbing liquid and the once per day lowest 12-hour pH average of the scrubber, LAC-70. The Permittee shall include in its record when a reading is not taken and the reason for lack of reading (e.g. the process did not operate that hour or day).

(b) To document the compliance status with Condition D.2.5(b), the Permittee shall maintain daily records of the scrubber recirculation rate of the scrubber, LAC-70. The Permittee shall include in its daily record when the readings are not taken and the reason for the lack of the readings (e.g., the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee’s obligation with regard to the records required by this condition.
SECTION D.3  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Feed House and Boiler House Area, consisting of:

(1) One (1) natural gas/No. 2 fuel oil fired Zurn Boiler, identified as Unit ID LA-44, constructed in 1977, with a maximum heat input of 227 MMBtu/hr, with no emission control device, exhausting to stack 34.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-44 is considered part of an existing affected source.

(2) One (1) coal fired Riley Stoker Boiler, identified as Unit ID LA-45, constructed in 1977, with a maximum heat input of 239 MMBtu/hr, with a multiclone (539113) and an electrostatic precipitator (539115) for particulate control, with a scrubber (LAC-68) installed in 2015 for particulate, SO₂, and HCl control, exhausting to stack 4.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-45 is considered an existing affected source.

(3) One (1) natural gas fired Cleaver Brooks Boiler, identified as Unit ID LA-46, constructed in 1980, with a maximum heat input of 49 MMBtu/hr, with no emission control device, exhausting to stack 5.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-46 is considered part of an existing affected source.

(4) One (1) natural gas/No. 2 fuel oil direct fired Fiber Dryer, identified as Unit ID LA-8, constructed in 1977 (modified in 1995 and 2004), with a maximum heat input of 58 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO₂, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(5) One (1) natural gas/No. 2 fuel oil direct fired DSLC Dryer, identified as Unit ID LA-17A, constructed in 1977 (modified in 1995 and 2007), with a maximum heat input of 45 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO₂, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(6) One (1) natural gas direct fired Gluten Dryer, identified as Unit ID LA-15, constructed in 1995, with a maximum heat input of 52 MMBtu/hr, using low NOx burners, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO₂, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(7) One (1) steam heated Germ RST Pre-Dryer, identified as Unit ID LA-60, constructed in 1995, an integral product collector/cyclone providing particulate control, with a scrubber (LAC-69) for particulate, SO₂, and VOC control, with VOC emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.
(8) One (1) natural gas/No. 2 fuel oil direct fired GR Dryer, identified as Unit ID LA-47, constructed in 1977 (modified in 1995), with a maximum heat input of 55 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-69) for particulate and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(9) One (1) steam heated Germ RST Finish Dryer No.3, identified as Unit ID LA-53, constructed in 1991 (modified in 1995), with a cyclone (not integral) for particulate control, with a scrubber (LAC-69) for particulate and VOC control, with VOC emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(10) One (1) Feedhouse Aspiration System, identified as Unit ID LA-71, constructed in 1977 (modified in 1995), with a scrubber (LAC-71) for SO₂ and VOC control, exhausting to stack 4.

(11) One (1) Feed Cooler and Cyclone, identified as Unit ID LA-17B, constructed in 1977 (modified in 1995), with an integral product collector/cyclone (534338) and scrubber (LAC-17B) for particulate control, exhausting to stack 4.

(12) One (1) Cracked Corn to GR Conveyor Transfer Cyclone, identified as Unit ID LA-43, constructed in 1977 (modified in 1995), with an integral product collector/cyclone (LAC-43) and a scrubber (LAC-17B) for particulate control, exhausting to stack 4.

(13) Three (3) natural gas fired regenerative thermal oxidizers, identified as LAC-600, LAC-601, and LAC-602, constructed in 2015, controlling VOC and CO emissions from multiple units, each with a heat input capacity of 16 MMBtu/hr natural gas, exhausting to stack 4.

(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 2-7-5(1)]

#### D.3.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), PSD 79-1551, issued on August 31, 1984, and OP No. 79-07-89-0347, issued on February 5, 1986:

(a) PM emissions from LA-8 shall be controlled by a cyclone and shall not exceed 28.2 pounds per hour and 123.4 tons per year.

(b) SO₂ emissions from LA-8 shall not exceed 92.8 pounds per hour and 406.5 tons per year.

(c) NOx emissions from LA-8 shall not exceed 23.51 pounds per hour and 103 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

#### D.3.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) Dryers LA-8, LA-15, LA-17A, LA-47, LA-53, and LA-60:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0349, issued on February 5, 1986, PM emissions from LA-47 shall not exceed 8.25 pounds per hour and 36.1 tons per year.
Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements), CO emissions from LA-8, LA-17A, LA-15, and LA-47 shall not exceed 76.8 pounds per hour and 336.4 tons per year combined.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(3) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, as revised in SSM No. 157-11449-00033, issued on August 16, 2000, as revised in AA No. 157-16939-00033, issued on March 25, 2003, and as revised in T157-27033-00033, issued August 14, 2014, PM and PM$_{10}$ emissions from LAC-67 (controlling emissions from LA-8, LA-15, and LA-17A) and LAC-69 (controlling emissions from LA-47, LA-53, and LA-60) shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAC-67</td>
<td>65.41</td>
<td>65.41</td>
</tr>
<tr>
<td>(controlling LA-8, LA-15, LA-17A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAC-69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(controlling LA-47, LA-53, LA-60)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM$_{10}$ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM$_{10}$.

(4) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and SSM No. 157-11449-00033, issued on August 16, 2000, the concentration of SO$_2$ in the exhaust from scrubbers LAC-67 (controlling emissions from LA-8, LA-15, LA-17A) and LAC-69 (controlling emissions from LA-47 and LA-60) shall not exceed 187 parts per million.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 and the SSM No. 157-11449-00033 projects, shall limit the net emissions increase of SO$_2$ from the modifications to less than forty (40) tons of SO$_2$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 and 2000 modifications for SO$_2$.

(b) LA-45:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0342, PM emissions from LA-45 shall not exceed 0.4 lb/MMBtu, 95.6 pounds per hour and 418.7 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.
(2) Pursuant to SSM No. 157-11449-00033, issued on August 16, 2000, PM emissions from LA-45 shall not exceed 0.2 pound per MMBtu heat input.

Compliance with this limit, in combination with other limits from the SSM No. 157-11449-00033 project, shall limit the net emissions increase of PM from the modification to less than twenty-five (25) tons of PM per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2000 modification for PM.

(c) LA-71:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0348, issued on February 5, 1986, SO2 emissions from LA-71 shall not exceed 12.44 pounds per hour and 54.5 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, the total SO2 emissions from scrubbers LAC-70 and LAC-71 (controlling emissions from the feedhouse and millhouse, respectively) shall not exceed 12.85 pounds per hour and the concentration of SO2 in each exhaust shall not exceed 17 ppm.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of SO2 from the modification to less than forty (40) tons of SO2 per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for SO2.

(d) LA-17B and LA-43:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0349, issued on February 5, 1986, PM emissions from LA-17B shall not exceed 3.0 pounds per hour and 31.1 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 29, 2004, PM and PM10 emissions from LA-17B and LA-43 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-17B</td>
<td>6.43</td>
<td>6.43</td>
</tr>
<tr>
<td>LA-43</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM10 from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM10 per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM10.
D.3.3 Particulate Emission Limitations for Manufacturing Processes  [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from LA-17A, LA-17B, LA-15, LA-60, LA-47, LA-43, and LA-53 shall not exceed a calculated pound per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with one of the following equations:

(a) 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

Or

(b) Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

\[ E = 55.0 \, P^{0.11} - 40 \]

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

The PM limits for LA-17A, LA-17B, LA-15, LA-60, LA-47, LA-43, and LA-53 in Condition D.3.1 are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rates for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.3.4 Particulate Matter (Sources of Indirect Heating)  [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(e), the particulate matter emissions from boilers LA-44, LA-45 and LA-46 shall not exceed 0.6 pound per MMBtu heat input each.

D.3.5 Sulfur Dioxide  [326 IAC 7-1.1-2][326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-1.1-2(a)(3), the \( \text{SO}_2 \) emissions from boiler LA-44 shall each not exceed 0.5 pounds per MMBtu heat input when combusting #2 fuel oil. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

(b) Pursuant to 326 IAC 7-1.1-2(a)(1), the \( \text{SO}_2 \) emissions from boiler LA-45 shall not exceed 6.0 pounds per MMBtu heat input when combusting coal. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.3.6 Volatile Organic Compounds - BACT  [326 IAC 8-1-6]

Pursuant to SSM No. 157-11449-00033, issued on August 16, 2000, and 326 IAC 8-1-6, the VOC emissions from facilities LA-15 and LA-60 shall be controlled by wet scrubbers, determined to be BACT, having at least forty five percent (45%) overall VOC control efficiency.

D.3.7 Administrative Consent Order Requirements

Pursuant to SSM No. 157-30513-00033, issued on January 30, 2014, and as required by Administrative Consent Order No. EPA-5-070113(a) IL-04, the Permittee shall comply with the following:

(a) VOC emissions from dryers LA-8, LA-17A, LA-15, LA-47, LA-53, and LA-60 shall be reduced by 95% or no higher than an outlet concentration of 10 ppm.

(b) CO emissions from dryers LA-8, LA-17A, LA-15, and LA-47 shall be reduced by 90% or no higher than an outlet concentration of 100 ppm.
(c) The Permittee shall not use any emission reductions, achieved from the operation of the control equipment required to meet the limits in (a) and (b), for netting purposes as defined by 40 CFR 52.21(b)(3) and 326 IAC 2-2-1(ii) or for any emissions offset, banking, selling, or trading programs.

D.3.8 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.3.9 Control Devices

Except as provided in Condition D.3.10 - Rotary Dryer Shutdown Control and Emissions Minimization Plan, in order to ensure compliance with Conditions D.3.1, D.3.2, D.3.3, D.3.4, D.3.6, and D.3.7, the control devices listed below shall be in operation and control emissions from the associated process at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process IDs</th>
<th>Pollutants Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiclone (539113)</td>
<td>LA-45</td>
<td>Particulate</td>
</tr>
<tr>
<td>ESP (539115)</td>
<td>LA-45</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-8</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-15</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-17A</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber (LAC-67)</td>
<td>LA-8, LA-15, LA-17A</td>
<td>Particulate, SO₂, VOC</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-47</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-60</td>
<td>Particulate</td>
</tr>
<tr>
<td>Cyclone</td>
<td>LA-53</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber (LAC-69)</td>
<td>LA-47, LA-60, LA-53</td>
<td>Particulate, SO₂, VOC</td>
</tr>
<tr>
<td>RTOs (LAC-600, LAC-601, and/or LAC-602)</td>
<td>LA-8, LA-15, LA-17A, LA-47</td>
<td>VOC, CO</td>
</tr>
<tr>
<td></td>
<td>LA-60, LA-53</td>
<td>VOC</td>
</tr>
<tr>
<td>Scrubber (LAC-70)</td>
<td>LA-70</td>
<td>SO₂, VOC</td>
</tr>
<tr>
<td>Integral Cyclone (534338)</td>
<td>LA-17B</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone (LAC-43)</td>
<td>LA-43</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber (LAC-17B)</td>
<td>LA-17B, LA-43</td>
<td>Particulate</td>
</tr>
</tbody>
</table>

D.3.10 Rotary Dryer Shutdown Control and Emissions Minimization Plan

The rotary dryers, LA-17, LA-60, LA-47 and LA-53, are not required to be controlled by the RTOs during shutdown of these units. Shutdown is defined as the period of time between when the material feed system to a rotary dryer is stopped and when any remaining material is removed from the rotary dryer. VOC emissions during the shutdown of the rotary dryers will be minimized by following the Shutdown Emissions Minimization Plan in the table below:

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shut off feed to the dryer</td>
<td>This will discontinue the source of VOC emissions (moisture in the co-product) generated in the dryer</td>
</tr>
</tbody>
</table>
Step | Action | Rationale
--- | --- | ---
2 | Shut off the heat source to the dryer once the feed has been stopped | This will begin the dryer cooling process - as the dryer cools, the evaporative effects of the dryer decrease and reduce the amount of VOC generated
3 | Divert the dryer exhaust from the associated RTO to atmosphere once both the feed is shut off and the heat source is shut off. | This is necessary since introduction of quench air into the dryer will cause the dryer exhaust to exceed the RTO capacity
4 | Introduce quench air to the dryer. The quench air is initiated no later than 15 minutes after the feed and heat source are shut off. Starting quench air flow is a manual operation. This is because all three conditions are part of the "cooling down" process for the dryer. | Quench air is required to be introduced into the dryer to increase the cooling rate of the dryer in order prevent the potential of a fire in the dryer - this also facilitates minimization of VOC emissions since the material in the dryer is cooled to a certain point, no more volatilization of VOC occurs

D.3.11 Sulfur Dioxide Emissions and Sulfur Content
Compliance with Condition D.3.5(a) shall be determined using one of the following options:

(a) Pursuant to 326 IAC 7-2-1(h)(4), the Permittee shall demonstrate that the SO2 emissions from LA-44 do not exceed five-tenths (0.5) pound per million Btu heat input when combusting #2 fuel oil by:

(1) Providing vendor analysis of fuel delivered (including Btu per gallon and percent sulfur), if accompanied by a vendor certification, 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.

(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

(b) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for SO2 emissions from boiler LA-44 using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to a method specified above shall not be refuted by evidence of compliance pursuant to the other method.

D.3.12 Sulfur Dioxide Emissions and Sulfur Content
Compliance with Condition D.3.5(b) shall be determined using one of the following options:

(a) Pursuant to 326 IAC 7-2-1(h)(5), the Permittee shall provide vendor analysis of coal delivered. If accompanied by a certification from the fuel supplier, the certification shall include:
(1) The name of the coal supplier.

(2) 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 coal 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).

(3) 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.

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

(b) Pursuant to 326 IAC 7-2-1(h)(4), the Permittee shall sample and analyze the coal using one of the following procedures:

(1) Minimum Coal Sampling Requirements and Analysis Methods:

(A) The coal sample acquisition point shall be at a location where representative samples of the total coal flow to be combusted by the facility or facilities may be obtained. A single as-bunkered or as-burned sampling station may be used to represent the coal to be combusted by multiple facilities using the same stockpile feed system;

(B) Coal shall be sampled at least one (1) time per day;

(C) Minimum sample size shall be five hundred (500) grams;

(D) Samples shall be composited and analyzed at the end of each calendar quarter;

(E) Preparation of the coal sample, heat content analysis, and sulfur content analysis shall be determined pursuant to 326 IAC 3-7-2(c), (d), (e); or

(2) Sample and analyze the coal pursuant to 326 IAC 3-7-3; or

(c) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for sulfur dioxide emissions from LA-45, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, which is conducted with such frequency as to generate the amount of information required by (a) or (b) above. [326 IAC 7-2-1(b)]

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

D.3.13 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.2 and D.3.6, the Permittee shall perform PM, PM10, VOC, and SO2 testing on scrubber LAC-67 utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C-
Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM\textsubscript{10} includes filterable and condensable PM.

(b) In order to demonstrate compliance with Conditions D.3.2 and D.3.6, the Permittee shall perform PM, PM\textsubscript{10}, VOC, and SO\textsubscript{2} testing on scrubber LAC-69 utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM\textsubscript{10} includes filterable and condensable PM.

(c) In order to demonstrate compliance with Conditions D.3.2 and D.3.7, the Permittee shall perform VOC and CO testing on the RTOs controlling dryers LA-8, LA-17A, LA-15, LA-47, LA-53, and LA-60 utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(d) Condition D.2.4 includes additional testing requirements relating to the limits in Condition D.3.2(c)(2).

D.3.14 Continuous Opacity Monitoring [326 IAC 3-5][326 IAC 2-7-6(1),(6)][40 CFR 63]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 40 CFR 63, Subpart DDDDD, a continuous emission monitoring system for LA-45 shall be calibrated, maintained, and operated for measuring opacity, which meets all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emissions monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 and 40 CFR 63.

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

D.3.15 Visible Emissions Notations

(a) Visible emission notations of the exhaust from stack 34 (exhausting emissions from LA-44) shall be performed once per day during normal daylight operations while combusting fuel oil. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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. Failure to take response steps shall be considered a deviation from this permit.

D.3.16 Cyclone Failure Detection

In the event that a cyclone malfunction has been observed:

(a) For a cyclone controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a cyclone controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.17 Scrubber Monitoring [40 CFR 64]

(a) The Permittee shall monitor the pH in scrubber LAC-67 controlling emissions from LA-8, LA-15, and LA-17A every hour when the associated processes are in operation. When for any one reading the pH in the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH greater than or equal to 5.0 and the lowest average of twelve (12) consecutive once per hour measurements determined once per day greater than or equal to 7, unless different upper-bound or lower-bound values are determined during the latest stack test. A reading that is below the above mentioned pH minimum or outside the average pH range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor the pH in scrubber LAC-69 controlling emissions from LA-47, LA-60, and LA-53, every hour when the associated processes are in operation. When for any one reading the pH in the scrubbers is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH greater than or equal to 5.0 and the lowest average of twelve (12) consecutive once per hour measurements determined once per day greater than or equal to 7, unless different upper-bound or lower-bound values are determined during the latest stack test. A reading that is below the above mentioned pH minimum or outside the average pH range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor the pH in scrubber LAC-71 controlling emissions from LA-71 every hour when the associated processes are in operation. When for any one reading the pH in the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pH greater than or equal to 5.0 and the lowest average of twelve (12) consecutive once per hour measurements determined once per day greater than or equal to 7, unless different upper-bound or lower-bound values are determined during the latest stack test. A reading that is below the above mentioned pH minimum or outside the average pH range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The Permittee shall monitor and record the scrubtant flow rate of the gaseous and particulate sections of scrubbers (LAC-67 LAC-69, and LAC-71) controlling emissions from LA-8, LA-15, LA-17A, LA-47, LA-60, LA-53, and LA-71 at least once per hour when
the associated processes are in operation. When for any one reading, the flow rates are below the respective normal minimum average flow rates, the Permittee shall take a reasonable response. The normal minimum average flow rates for these scrubbers are indicated in the table below, unless a different minimum flow rate is determined during the latest stack test. A reading that is below the average flow rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

<table>
<thead>
<tr>
<th>Scrubber</th>
<th>Associated Units</th>
<th>Gaseous Section Average Minimum(^1) (gpm)</th>
<th>Particulate Section Average Minimum(^1) (gpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAC-67</td>
<td>LA-8, LA-15, LA-17A</td>
<td>1000</td>
<td>200</td>
</tr>
<tr>
<td>LAC-69</td>
<td>LA-47, LA-60, LA-53</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>LAC-71</td>
<td>LA-71</td>
<td>250</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Notes:
1. Lowest average of twelve (12) consecutive one-hour readings determined once per day.

(e) The Permittee shall monitor the scrubbant flow rate of scrubber LAC-17B at least once per hour when LA-17B and/or LA-43 are in operation. When for any one reading the flow rate is below the normal minimum average flow rate, the Permittee shall take a reasonable response. The normal minimum average flow rate for this scrubber is 175 gallons per minute, based on the lowest average of twelve (12) consecutive one-hour readings determined at least once per day. A reading that is below the above mentioned minimum average flow rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(f) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

D.3.18 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

(a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a scrubber controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.19 Continuous Opacity Monitoring (COMS) Downtime

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

(b) Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.
Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

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

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

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

D.3.20 RTO Temperature [40 CFR 64]

(a) Continuous monitoring systems shall be calibrated, maintained, and operated on the RTOs (LAC-600, LAC-601, and LAC-602) 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 a 3-hour average. From the date of startup until the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperature of 1,400°F.

(b) The Permittee shall determine the 3-hour average temperatures from the latest valid stack test that demonstrates compliance with limits in Condition D.3.6.

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperatures 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.3.21 Parametric Monitoring - RTO Duct Pressure or Fan Amperage [40 CFR 64]

(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.3.6.

(b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizers are 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 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 2-7-5(3)][326 IAC 2-7-19]

D.3.22 Record Keeping Requirements

(a) To document the compliance status with the Shutdown Control and Emissions Minimization Plan required by Condition D.3.10, the Permittee shall maintain records in accordance with (1) and (2) below.

(1) Record the number of shutdowns experienced by LA-17A, LA-60, LA-47, and LA-53 on a per unit basis.

(2) Record the total time required for each shutdown of LA-17A, LA-60, LA-47, and LA-53 on a per unit basis.

(b) To document the compliance status with Condition D.3.11, 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 sulfur dioxide emission limit established in Condition D.3.5(a).

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

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions.

(3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications.

(5) The name of the fuel supplier.

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

(c) To document the compliance status with Condition D.3.12, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the PM and SO2 emission limits in Conditions D.3.2(b), D.3.4, and D.3.5(b).

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

(2) Actual coal usage since last compliance determination period.

(3) Sulfur content, heat content, and ash content.

(4) Sulfur dioxide emission rates.

(5) Vendor analysis of coal and coal supplier certification.
(d) To document the compliance status with Condition D.3.15, the Permittee shall maintain records of the daily visible emission notations of boiler LA-44 stack exhaust (stack 32). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.3.17, the Permittee shall maintain records of the:

2. Lowest once per day 12-hour average pH of scrubbers LAC-67, LAC-69, and LAC-71.
3. Hourly scrubabant flow rate readings of scrubbers LAC-67, LAC-69, LAC-71, and LA-17B.
4. Lowest once per day 12-hour average scrubabant flow rate of scrubbers LAC-67, LAC-69, and LAC-71.

The Permittee shall include in its record when a reading is not taken and the reason for the lack of a reading (e.g. the process did not operate that day or hour).

(f) To document the compliance status with Condition D.3.20, the Permittee shall maintain continuous temperature records (on a three-hour average basis) for each thermal oxidizer (LAC-600, LAC-601, and LAC-602) and the three-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(g) To document the compliance status with Condition D.3.21, the Permittee shall maintain daily records of the duct pressure or fan amperage. The Permittee shall include in its record when a reading is not taken and the reason for the lack of reading (e.g., the process did not operate that day).

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

D.3.23 Record Keeping Requirements for COMS [326 IAC 2-7-5(3)(B)] [326 IAC 3-5]

(a) To document the compliance status with Condition D.3.20, Section C - Opacity, 326 IAC 3-5, and 40 CFR 63, the Permittee shall maintain records in accordance with (1) through (3) below. Records shall be complete and sufficient to establish compliance with the limits in Section C - Opacity and 40 CFR 63.

1. Data and results from the most recent stack test.
2. All continuous opacity monitoring data, pursuant to 326 IAC 3-5-6.
3. The results of all Method 9 visible emission readings taken during any periods of COMS downtime.

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

D.3.24 Reporting Requirements for COMS [326 IAC 2-7-5(3)(C)] [326 IAC 3-5]

A quarterly report of opacity exceedances shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the
quarter being reported. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1 (35).
SECTION D.4  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) Feed Products Storage and Loadout Area, consisting of:

1. One (1) Cracked Corn Bin, identified as Unit ID LA-22, constructed in 1977, with a baghouse (LAC-22) for particulate control, exhausting to stack 3.

2. One (1) Gluten Airveyor System, identified as Unit ID LA-21, constructed in 1977, with a baghouse (LAC-21) for particulate control, exhausting to stack 10.

3. One (1) Germ Cooler Airveyor/Germ Loadout Bin, identified as Unit ID LA-18, constructed in 1977, with a baghouse (LAC-18) for particulate control, exhausting to stack 11.

4. One (1) Gluten Loadout, identified as Unit ID LA-21B, constructed in 2004, with a baghouse (LAC-21B) for particulate control, exhausting to stack 9.

5. One (1) Pellet Cooler #1, identified as Unit ID LA-79, constructed in 2004, with a cyclone (LAC-79) (not integral) for particulate control, exhausting to stack 58.

6. One (1) Combo Pellet Cooler, identified as Unit ID LA-63, constructed in 1995 (modified in 2004), with a cyclone (LAC-63) (not integral) for particulate control, exhausting to stack 42.

7. One (1) Pellet Cooler #4, identified as Unit ID LA-80, constructed in 2004, with a cyclone (LAC-80) (not integral) for particulate control, exhausting to stack 59.

8. One (1) Pellet Cooler #5, identified as Unit ID LA-81, constructed in 2004, with a cyclone (LAC-81) (not integral) for particulate control, exhausting to stack 60.

9. One (1) Pellet Storage Bin, identified as Unit ID LA-64, constructed in 1995 (modified in 2004), with an integral baghouse (LAC-64) for particulate control, exhausting to stack 43.

10. One (1) Hammermill Aspiration Process, identified as Unit ID LA-77, constructed in 2000 (modified in 2004), with a scrubber (LAC-77) for particulate control, exhausting to stack 54.

11. One (1) Feed Dump Aspiration System, identified as Unit ID LA-83, constructed in 2004, with a baghouse (LAC-83) for particulate control, exhausting to stack 62.

(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 2-7-5(1)]

D.4.1 Prevention of Significant Deterioration  [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0345, issued on February 5, 1986, PM emissions from LA-18 and LA-22 shall not exceed the following limits:
Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(b) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 28, 2004, PM and PM$_{10}$ emissions from LA-21 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-21</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM$_{10}$ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM$_{10}$.

(c) Pursuant to SSM No. 157-16882-00033, issued on December 5, 2003, and as revised by this Part 70 Operating Permit No. T157-6008-00033, issued on June 28, 2004, the PM and PM$_{10}$ emissions from LA-21B, LA-63, LA-64, LA-77, LA-79, LA-80, LA-81, and LA-83 shall not exceed the values in the table below:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM emission limit (lb/hr)</th>
<th>PM$_{10}$ emission limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-21B</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>LA-63</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>LA-64</td>
<td>1.29</td>
<td>1.29</td>
</tr>
<tr>
<td>LA-77</td>
<td>0.77</td>
<td>0.77</td>
</tr>
<tr>
<td>LA-79</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>LA-80</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>LA-81</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>LA-83</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Compliance with these limits, shall limit the net emissions increase of PM and PM$_{10}$ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2003 modification for PM and PM$_{10}$.

D.4.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from LA-22, LA-21, LA-18, LA-63, LA-64, LA-77, LA-21B, LA-79, LA-80, LA-81, and LA-83 shall not exceed a calculated pound per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with one of the following equations:
(1) 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

Or

(2) Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

\[ E = 55.0 \ P^{0.11} - 40 \]

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

The PM limits for LA-22, LA-21, LA-18, LA-63, LA-64, LA-77, LA-21B, LA-79, LA-80, LA-81, and LA-83 in Condition D.4.1 are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rates for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.4.4 Particulate Control

(a) In order to ensure compliance with Conditions D.4.1 and D.4.2, the control devices listed below shall be in operation and control emissions from the associated processes at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process IDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse LAC-18</td>
<td>LA-18</td>
</tr>
<tr>
<td>Baghouse LAC-21</td>
<td>LA-21</td>
</tr>
<tr>
<td>Baghouse LAC-21B</td>
<td>LA-21B</td>
</tr>
<tr>
<td>Baghouse LAC-22</td>
<td>LA-22</td>
</tr>
<tr>
<td>Baghouse LAC-64</td>
<td>LA-64</td>
</tr>
<tr>
<td>Baghouse LAC-83</td>
<td>LA-83</td>
</tr>
<tr>
<td>Cyclone LAC-63</td>
<td>LA-63</td>
</tr>
<tr>
<td>Cyclone LAC-79</td>
<td>LA-79</td>
</tr>
<tr>
<td>Cyclone LAC-80</td>
<td>LA-80</td>
</tr>
<tr>
<td>Cyclone LAC-81</td>
<td>LA-81</td>
</tr>
<tr>
<td>Scrubber LAC-77</td>
<td>LA-77</td>
</tr>
</tbody>
</table>

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

D.4.5 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from LA-22, LA-21, LA-18, LA-21B, LA-63, LA-64, LA-79, LA-80, LA-81, and LA-83 (stacks 3, 10, 11, 9, 42, 43, 58, 59, 60, and 62, respectively) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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. Failure to take response steps shall be considered a deviation from this permit.

D.4.6 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from LA-77 (stacks 54) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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. Failure to take response steps shall be considered a deviation from this permit.

D.4.7 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the
processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.4.8 Cyclone Failure Detection

In the event that a cyclone malfunction has been observed:

(a) For a cyclone controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a cyclone controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.4.9 Scrubber Monitoring

The Permittee shall monitor and record the flow rate of the scrubber (LAC-77) at least once per hour, when the hammermill aspiration process (LA-77) is in operation. When for any one reading, the flow rate across the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is an average flow rate greater than or equal to 25 gallons per minute based on the lowest average of twelve (12) consecutive one-hour readings determined once per day, unless a different lower-bound value is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is below the above mentioned minimum flow rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.4.10 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

(a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a scrubber controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
Record Keeping and Reporting Requirements  [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.4.11 Record Keeping Requirements

(a) To document the compliance status with Conditions D.4.5 and D.4.6, the Permittee shall maintain records of the once per day visible emission notations of the stack exhaust from units LA-22, LA-21, LA-18, LA-21B, LA-63, LA-64, LA-77, LA-79, LA-80, LA-81, and LA-83 (stacks 3, 10, 11, 9, 42, 43, 54, 58, 59, 60, and 62). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.4.9, the Permittee shall maintain records of the once per hour flow rate readings and the lowest daily 12-hour average flow rate of the scrubber (LAC-77) controlling emissions from LA-77. The Permittee shall include in its record when a flow rate reading is not taken and the reason for the lack of flow rate reading (e.g. the process did not operate that day or hour).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
### SECTION D.5  EMISSIONS UNIT OPERATION CONDITIONS

<table>
<thead>
<tr>
<th>Emissions Unit Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e) Refinery Area, consisting of:</td>
</tr>
<tr>
<td>(1) One (1) Mud Centrifuges Vent #1, identified as Unit ID LA-72, constructed in 1977, with no emission control device, exhausting to stack 46.</td>
</tr>
<tr>
<td>(2) One (1) Mud Centrifuges Vent #2, identified as Unit ID LA-73, constructed in 1977, with no emission control device, exhausting to stack 47.</td>
</tr>
<tr>
<td>(3) One (1) Mud Centrifuges Vent #3, identified as Unit ID LA-74, constructed in 1977, with no emission control device, exhausting to stack 53.</td>
</tr>
<tr>
<td>(4) One (1) Jets Foam Trap, identified as Unit ID LA-75, constructed in 1977 (modified in 2000), with no emission control device, primarily exhausting to a heat recovery system, exhausting to stack 48 when not being routed through a heat recovery system.</td>
</tr>
<tr>
<td>(5) One (1) Soda Ash Unloading and Storage, identified as Unit ID LA-29, constructed in 1977 (modified in 1995), with a scrubber (LAC-29) for particulate control, exhausting to stack 19.</td>
</tr>
<tr>
<td>(6) Two (2) Hydrochloric Acid Storage Tanks, identified as Unit ID LA-41, constructed in 1977 (modified in 1995), with a scrubber (LAC-41) for voluntary HCl control, exhausting to stack 32.</td>
</tr>
<tr>
<td>(7) One (1) Hydrochloric Acid Supply Head Tank, identified as Unit ID LA-76, constructed in 1977 (modified in 1995), with a scrubber (LAC-76) for voluntary HCl control, exhausting to stack 50.</td>
</tr>
<tr>
<td>(8) One (1) Cation IX Drain Tank, identified as Unit ID LA-65A, constructed in 1977, with a scrubber (LAC-65A) for voluntary HCl control, exhausting to stack 51.</td>
</tr>
<tr>
<td>(9) One (1) Filter Aid Rail/Truck Unloading to Storage Bin, identified as Unit ID LA-31, constructed in 1977, approved in 2018 to replace baghouse (LAC-31A) with baghouse (LAC-31) for particulate control, exhausting to stack 20.</td>
</tr>
<tr>
<td>(10) One (1) Filter Aid Transfer from Storage Bins to Weighing Hopper, identified as Unit ID LA-32, constructed in 1977, with a baghouse (LAC-32) for particulate control, exhausting to stack 21.</td>
</tr>
<tr>
<td>(11) One (1) MBS Aspiration System, identified as Unit ID LA-61, constructed in 1977 (modified in 1995), with a scrubber (LAC-61) for SO2 control, exhausting to stack 49.</td>
</tr>
<tr>
<td>(12) One (1) natural gas/No. 2 fuel oil fired Carbon Reactivation Furnace, identified as Unit ID LA-28, constructed in 1977, with a maximum heat input of 22 MMBtu/hr, with a scrubber (LAC-28) for particulate control, exhausting to stack 33 and then to stack 33A.</td>
</tr>
<tr>
<td>(13) One (1) Krystar Dryer/Cooler System No. 1, identified as Unit ID LA-51, constructed in 1987 (modified in 2007 and 2015), with two integral cyclones/product collectors (53L605) and a wet scrubber (LAC-51) for particulate control, exhausting to stack 35.</td>
</tr>
</tbody>
</table>
(14) One (1) natural gas-fired Carbon Reactivation Furnace, identified as Unit ID LA-28B, constructed in 2007, with a maximum heat input of 15 MMBtu/hr, with a wet scrubber (LAC-28B) for particulate and SO2 control, with an afterburner (LAC-28BB) for VOC and CO control, exhausting to stack 33B and then to stack 33A.

(15) One (1) Spent Filter Aid Aspiration System, identified as LA-52, approved in 2014 for installation, with a baghouse (LAC-52) for particulate control, exhausting to stack 52, with emissions from:

(A) One (1) Filter Aid Mixer, identified as 526302.

(B) One Filter Aid Mixer Box Discharge Conveyor, identified as 566303.

(16) One (1) Krystar Dryer/Cooler System No. 2, identified as Unit ID LA-51A, approved in 2015 for construction, with two cyclones/product collectors and a wet scrubber (LAC-51A) for particulate control, exhausting to stack 35A, with emissions from:

(A) One (1) dryer/cooler, identified as Krystar Dryer/Cooler No. 2 (47L6XX), approved in 2015 for construction.

(B) One (1) Sweco aspiration system, with emissions from:

(i) Three (3) Sweco units, identified as Krystar Sweco No.1 (51L7XX), Krystar Sweco No.2 (51L7XX), and Krystar Sweco No.3 (51L7XX), approved in 2015 for construction.

(17) One (1) bagger aspiration system, servicing both Krystar Dryer/Cooler System No. 1 and Krystar Dryer/Cooler System No. 2, with emissions from:

(A) One (1) existing bagger, identified as Tote Bagger (59L710).

(B) One (1) bagger, identified as Bagger (59L735), approved in 2015 for construction.

(C) One (1) bagger head hopper, identified as Bagger Head Hopper (45L732), approved in 2015 for construction.

Note: The bagger aspiration system can be routed to either dryer/cooler system, No. 1 or No. 2. Normal practice will be to route the bagger system to dryer/cooler No. 1.

(18) One (1) Krystar Transportation Aspiration System, identified as Unit ID LA-51B, approved in 2015 for construction, with a wet scrubber (LAC-51B) for particulate control, exhausting to stack 35B, with emissions from:

(A) One (1) existing receiver, identified as Dense Phase Receiver (43L44).

(B) One (1) existing bin, identified as Scalper Receiver Bin (45L707).

(C) One (1) bin, identified as Scalper Receiver Bin (45L730), approved in 2015 for construction.

(D) One (1) receiver, identified as Sweco Receiver (45L7XX), approved in 2015 for construction.
(E) Three (3) bins, identified as Product Bin No. 1 (45L7XX), Product Bin No. 2 (45L7XX), and Product Bin No. 3 (45L7XX), approved in 2015 for construction.

(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 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0344, issued on February 5, 1986, PM emissions from LA-29, LA-31, and LA-32 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-29</td>
<td>0.11</td>
<td>0.5</td>
</tr>
<tr>
<td>LA-31</td>
<td>0.05</td>
<td>0.2</td>
</tr>
<tr>
<td>LA-32</td>
<td>0.03</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(b) For LA-28 and LA-61:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0344, issued on February 5, 1986:

(A) PM emissions from LA-28 shall not exceed 3.0 pounds per hour and 13.1 tons per year.

(B) SO₂ emissions from LA-28 shall not exceed 10.4 pounds per hour and 45.6 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, as revised in Amendment No. 157-5638-00033, issued on May 6, 1996, and as revised in T157-6008-00033, issued on June 28, 2004:

(A) PM and PM₁₀ emissions from LA-28 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM₁₀ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-28</td>
<td>1.29</td>
<td>1.29</td>
</tr>
</tbody>
</table>

(B) The SO₂ emissions from LA-61 shall not exceed 5.96 pounds per hour and the concentration of SO₂ in the exhaust shall not exceed 500 ppm.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM, PM₁₀, and SO₂ from the modification to less than twenty-five (25) tons of PM, fifteen (15) tons of PM₁₀, and forty (40) tons of SO₂ per twelve (12) consecutive months.
period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM, PM₁₀ and SO₂.

(c) Pursuant to SSM No. 157-11449-00033, issued on August 16, 2000, and as revised in T157-27033-00033, issued August 14, 2014, SO₂ emissions from LA-75 shall be limited as follows:

1. The amount of steam vented directly to the atmosphere from LA-75 shall not exceed 25,000,000 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.

2. The SO₂ emissions in the steam shall not exceed 0.003 pound per pound of steam.

Compliance with these limits, in combination with other limits from the SSM No. 157-11449-00033 project, shall limit the net emissions increase of SO₂ from the modification to less than forty (40) tons of SO₂ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2000 modification for SO₂.

(d) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, as revised in SSM No. 157-16770-00033, issued on July 10, 2003, and as revised in SSM No. 157-24835-00033, issued on October 24, 2007, and as revised in SSM No. 157-35435-00033, PM, PM₁₀, and PM₂.₅ emissions from LA-51 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM₁₀ Limit (lb/hr)</th>
<th>PM₂.₅ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-51</td>
<td>0.82</td>
<td>0.82</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 and SSM No. 157-16770-00033 projects, shall limit the net emissions increase of PM and PM₁₀ from the modifications to less than twenty-five (25) tons of PM and fifteen (15) tons of PM₁₀ per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 and 2003 modifications for PM and PM₁₀.

Compliance with these limits, in combination with the limits for LA-28B, shall also limit the potential to emit of PM and PM₁₀ from the SSM No. 157-24835-00033 project to less than twenty-five (25) tons of PM and fifteen (15) tons of PM₁₀ per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable to the 2007 (SSM No. 157-24835-00033) modification for PM and PM₁₀.

Compliance with these limits, in combination with the other limits from the SSM No. 157-35435-00033 projects, shall limit the potential to emit PM, PM₁₀, and PM₂.₅ of the 2015 modifications to less than twenty-five (25) tons of PM, fifteen (15) tons of PM₁₀, and ten (10) tons of PM₂.₅ per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable to SSM No. 157-35435-00033 for PM, PM₁₀, and PM₂.₅.

(e) Pursuant to SSM No. 157-24835-00033, issued on October 24, 2007, PM, PM₁₀, VOC, and CO emissions from LA-28B shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Pollutant</th>
<th>Emission Limits (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-28B</td>
<td>PM</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td>1.0</td>
</tr>
</tbody>
</table>
Compliance with these limits, in combination with the limits for LA-51, shall limit the potential to emit of PM, PM$_{10}$, VOC, and CO from the modification to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, forty (40) tons of VOC, and one hundred (100) tons of CO per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2007 (SSM No. 157-24835-00033) modification for PM, PM$_{10}$, VOC, and CO.

(f) Pursuant to SSM No. 157-30513-00033, issued on January 30, 2014, PM, PM$_{10}$, and PM$_{2.5}$ emissions from LA-52 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
<th>PM$_{2.5}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-52</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with the potential to emit PM, PM$_{10}$, and PM$_{2.5}$ from the combustion of natural gas at RTO Nos. 1, 2, and 3 (LAC-600, LAC-601, and LAC-602), shall limit the potential to emit of the modification to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014 (SSM 157-30513-00033) and the 2015 (SSM 157-35435-00033) modifications for PM, PM$_{10}$, and PM$_{2.5}$.

(g) Pursuant to SSM No. 157-35435-00033, issued August 4, 2015, PM, PM$_{10}$, and PM$_{2.5}$ emissions from LA-51A, LA-51B, shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
<th>PM$_{2.5}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-51A</td>
<td>0.29</td>
<td>0.29</td>
<td>0.13</td>
</tr>
<tr>
<td>LA-51B</td>
<td>0.27</td>
<td>0.27</td>
<td>0.12</td>
</tr>
<tr>
<td>Bagger Aspiration System</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Bagger Aspiration System (Tote Bagger 59L710, Bagger 59L735, Bagger Head Hopper 45L732)

Compliance with these limits, in combination with the limit for LA-51, shall limit the net emissions increase of PM, PM$_{10}$, and PM$_{2.5}$ from the 2015 modifications to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to SSM No. 157-35435-00033 for PM, PM$_{10}$, and PM$_{2.5}$.

(h) Pursuant to SSM No. 157-40283-00033, issued October 24, 2018, and 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:

(1) The PM$_{10}$ emissions from the Filter Aid Rail/Truck Unloading, identified as LA-31 controlled by one (1) baghouse, identified as LAC-31 shall not exceed a total of 3.3 pounds per hour.
(2) The PM$_{2.5}$ emissions from the Filter Aid Rail/Truck Unloading, identified as LA-31 controlled by one (1) baghouse, identified as LAC-31 shall not exceed a total of 2.2 pounds per hour.

Compliance with these limits shall limit PM$_{10}$ and PM$_{2.5}$ emissions from the Filter Aid Rail/Truck Unloading, identified as LA-31 to less than fifteen (15) tons of PM$_{10}$ and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (PSD) not applicable to SSM No. 157-40283-00033 for PM$_{10}$ and PM$_{2.5}$.

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emissions from LA-29, LA-31 (stack 20), LA-32, LA-51, LA-51A, LA-51B, and LA-52 shall not exceed a calculated pound per hour limitation when operating a the corresponding process weight rate. Each pound per hour limitation shall be calculated with one of the following equations:

1. 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:

$$E = 4.10 \times P^{0.67}$$

where $E =$ rate of emission in pounds per hour; and $P =$ process weight rate in tons per hour

Or

2. Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 \times P^{0.11} - 40$$

where $E =$ rate of emission in pounds per hour; and $P =$ process weight rate in tons per hour

The PM limits for LA-29, LA-31, LA-32, LA-51, LA-51A, LA-51B, and LA-52 in Condition D.5.1 are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rates for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.5.3 Sulfur Dioxide [326 IAC 7-1.1-2][326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1-2(a)(3), the SO$_2$ emissions from LA-28 shall not exceed 0.5 pounds per MMBtu heat input when combusting #2 fuel oil. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.5.4 VOC Emissions [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (BACT) and SSM No. 157-24935-00033, issued on October 24, 2007, the Permittee shall control the VOC emissions from carbon reactivation furnace LA-28B with a Best Available Control Technology (BACT), which has been determined to be the following:

(a) The VOC emissions from the furnace LA-28B shall be controlled by an afterburner.

(b) The VOC emissions from the furnace LA-28B stack (Stack 33B) shall not exceed 1.0 pound per hour.

(c) The overall VOC control efficiency for the afterburner (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.
D.5.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.5.6 Particulate and Sulfur Dioxide Control

(a) In order to ensure compliance with Conditions D.5.1, D.5.2, and D.5.4, the control devices listed below shall be in operation and control emissions from the associated processes at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process IDs</th>
<th>Pollutants Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse LAC-31</td>
<td>LA-31</td>
<td>Particulate</td>
</tr>
<tr>
<td>Baghouse LAC-32</td>
<td>LA-32</td>
<td>Particulate</td>
</tr>
<tr>
<td>Baghouse LAC-52</td>
<td>LA-52</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-28</td>
<td>LA-28</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-28B</td>
<td>LA-28B</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-29</td>
<td>LA-29</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-51</td>
<td>LA-51</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-51A</td>
<td>LA-51A</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-51B</td>
<td>LA-51B</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-61</td>
<td>LA-61</td>
<td>SO₂</td>
</tr>
<tr>
<td>Cyclone 53L605 (integral)</td>
<td>LA-51</td>
<td>Particulate</td>
</tr>
<tr>
<td>Krystar Dryer/Cooler System No. 2 cyclones</td>
<td>LA-51A</td>
<td>Particulate</td>
</tr>
<tr>
<td>Afterburner LAC-28BB</td>
<td>LA-28B</td>
<td>VOC and CO</td>
</tr>
</tbody>
</table>

(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.5.7 Sulfur Dioxide Emissions and Sulfur Content

Compliance with Condition D.5.3 shall be determined using one of the following options:

(a) Pursuant to 326 IAC 7-2-1(h)(4), the Permittee shall demonstrate that the SO₂ emissions from LA-28 do not exceed five-tenths (0.5) pound per million Btu heat input when combusting #2 fuel oil by:

1. Providing vendor analysis of fuel delivered (including Btu per gallon and percent sulfur), if accompanied by a vendor certification, 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.

(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.

(b) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for SO$_2$ emissions from furnace LA-28 using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to a method specified above shall not be refuted by evidence of compliance pursuant to the other method.

D.5.8 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.5.1(e), D.5.2, D.5.4(b), and D.5.4(c), the Permittee shall perform PM, PM$_{10}$, VOC (including emission rate, destruction efficiency, and capture efficiency), and CO testing for furnace LA-28B utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM$_{10}$ includes filterable and condensable PM.

(b) Not later than 180 days after the startup of LA-52, in order to demonstrate compliance with Condition D.5.1(f), the Permittee shall perform PM, PM$_{10}$, and PM$_{2.5}$ testing of the Spent Filter Aid Aspiration System utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM$_{10}$ and PM$_{2.5}$ include filterable and condensable PM.

(c) Not later than 180 days after the startup of the Bagger Aspiration System (units 59L710, 59L735 and 45L32), in order to demonstrate compliance with Condition D.5.1(d) and D.5.1(g), the Permittee shall perform PM, PM$_{10}$, and PM$_{2.5}$ testing of the Krystar Dryer/Cooler System No. 1 (LA-51) and the Bagger Aspiration System utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM$_{10}$ and PM$_{2.5}$ include filterable and condensable PM.

(d) Not later than 180 days after the startup of LA-51A, in order to demonstrate compliance with Condition D.5.1(g), the Permittee shall perform PM, PM$_{10}$, and PM$_{2.5}$ testing of the Krystar Dryer/Cooler System No. 2 (LA-51A) utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM$_{10}$ and PM$_{2.5}$ include filterable and condensable PM.

(e) Not later than 180 days after the startup of LA-51B, in order to demonstrate compliance with Condition D.5.1(g), the Permittee shall perform PM, PM$_{10}$, and PM$_{2.5}$ testing of the Krystar Transportation Aspiration System (LA-51B) utilizing methods approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this
PM10 and PM2.5 include filterable and condensable PM.

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

### D.5.9 Visible Emissions Notations [40 CFR 64]

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Visible emission notations of LA-29, LA-31, LA-32, LA-28B, LA-51, LA-51A, and LA-51B stack exhaust (stacks 19, 20, 21, 33B, 35, 35A, and 35B) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.</td>
</tr>
<tr>
<td>(b)</td>
<td>For processes operated continuously, &quot;normal&quot; 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.</td>
</tr>
<tr>
<td>(c)</td>
<td>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.</td>
</tr>
<tr>
<td>(d)</td>
<td>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.</td>
</tr>
<tr>
<td>(e)</td>
<td>If abnormal emissions are observed, 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. Failure to take response steps shall be considered a deviation from this permit.</td>
</tr>
</tbody>
</table>

### D.5.10 Visible Emissions Notations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Visible emission notations of LA-28, and LA-52 stack exhaust (stacks 33 and 52) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.</td>
</tr>
<tr>
<td>(b)</td>
<td>For processes operated continuously, &quot;normal&quot; 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.</td>
</tr>
<tr>
<td>(c)</td>
<td>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.</td>
</tr>
<tr>
<td>(d)</td>
<td>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.</td>
</tr>
<tr>
<td>(e)</td>
<td>If abnormal emissions are observed, 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. Failure to take response steps shall be considered a deviation from this permit.</td>
</tr>
</tbody>
</table>

### D.5.11 Broken or Failed Bag Detection

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).</td>
</tr>
</tbody>
</table>
(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.5.12 Scrubber Monitoring

(a) The Permittee shall monitor and record the pH of the scrubbing liquid in the scrubber (LAC-61) at least once per day when LA-61 is in operation. When for any one reading, the pH in the scrubber is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH greater than or equal to 5.0, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH 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.

(b) The Permittee shall monitor and record the flow rate of the scrubber (LAC-28) at least once per day when LA-28 is in operation. When for any one reading, the flow rate reading is below the respective normal minimum, the Permittee shall take a reasonable response. The normal minimum for this unit is 40 gallons per minute, based on the operating history because the unit is not subject to testing. A flow rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the flow rate of the scrubber (LAC-61) at least once per day when LA-61 is in operation. When for any one reading, the flow rate reading is below the respective normal minimum, the Permittee shall take a reasonable response. The normal minimum for this unit is 5 gallons per minute, based on the operating history because the unit is not subject to testing. A flow rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

D.5.13 Scrubber Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the flow rate of scrubber LAC-28B at least once per day when the carbon regeneration furnace LA-28B is in operation. When for any one reading, the flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a minimum flow rate of 455 gallons per minute unless a different minimum value is determined during the latest stack test. A flow rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the flow rate of scrubber LAC-29 at least once per day when the soda ash unloading process LA-29 is in operation. When for any one reading, the flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a minimum flow rate of 50 gallons per minute unless a different minimum value is determined during the latest stack test. A flow rate
reading that is outside the above mentioned range(s) is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the flow rate of the scrubber (LAC-51) at least once per hour when the Krystar Dryer/Cooler No. 1 (LA-51) process is in operation. When for any one reading, the flow rate across the scrubber is below the normal minimum, the Permittee shall take a reasonable response. The normal minimum for this unit is a flow rate average of 100 gallons per minute based on twelve (12) consecutive 1-hour readings, unless a different minimum flow rate is determined during the latest stack test. A reading that is below the above mentioned minimum flow rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition.

D.5.14 Scrubber Flow Rate [40 CFR 64]

(a) The Permittee shall monitor and record the flow rate of the scrubber (LAC-51A) at least once per hour when the Krystar Dryer/Cooler No. 2 process (LA-51A) is in operation. From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 100 gallons per minute.

(b) The Permittee shall monitor and record the flow rate of the scrubber (LAC-51B) at least once per hour when the Krystar Transportation System process (LA-51B) is in operation. From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 100 gallons per minute.

(c) The Permittee shall determine the minimum flow rates from the latest valid stack tests that demonstrates compliance with limits in Condition D.5.8.

(d) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test.

(e) When for any one reading, the flow rate is below the above mentioned minimum, 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 reading that is below the above mentioned minimum flow rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.5.15 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

(a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a scrubber controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
D.5.16 Cyclone Failure Detection

In the event that a cyclone malfunction has been observed:

(a) For a cyclone controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a cyclone controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.5.17 Afterburner Temperature [40 CFR 64]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the afterburner associated with furnace LA-28B for measuring operating temperature. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour average.

(b) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Conditions D.5.1(e), D.5.4(b), and D.5.4(c).

(c) On and after the date the approved stack test results are available, the Permittee shall operate the afterburner associated with furnace LA-28B 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.

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

D.5.18 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1(c), the Permittee shall maintain records of the total pounds of steam vented directly to the atmosphere per calendar month.

(b) To document the compliance status with Condition D.5.3, 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 sulfur dioxide emission limit established in Condition D.5.3.

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

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
(3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used;

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

c) To document the compliance status with Conditions D.5.9 and D.5.10, the Permittee shall maintain records of the once per day visible emission notations of the stack exhaust from LA-29, LA-31, LA-32, LA-28, LA-28B, LA-51, LA-51A, LA-51B, and LA-52 (stacks 19, 20, 21, 33, 33B, 35, 35A, 35B, and 52). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

d) To document the compliance status with Conditions D.5.12, D.5.13, and D.5.14, the Permittee shall maintain:

(1) Once per day records of the scrubbing liquid pH and scrubber flow rate of the scrubber (LAC-61) controlling emissions from LA-61. The Permittee shall include in its daily record when the pH and scrubber flow rate readings are not taken and the reason for the lack of pH reading and flow rate reading (e.g. the process did not operate that day).

(2) Once per day records of the scrubber flow rate of the scrubbers (LAC-28, LAC-28B, and LAC-29) controlling emissions from LA-28, LA-28B, and LA-29. The Permittee shall include in its daily record when a scrubber flow rate reading is not taken and the reason for the lack of flow rate reading (e.g. the process did not operate that day).

(3) Once per hour flow rate readings of the scrubbers (LAC-51, LAC-51A, and LAC-51B) controlling emissions from LA-51, LA-51A, and LA-51B. The Permittee shall include in its record when a flow rate reading is not taken and the reason for the lack of flow rate reading (e.g. the process did not operate that day or hour).

e) To document the compliance status with Condition D.5.17, the Permittee shall maintain continuous temperature records for the afterburner associated with furnace LA-28B and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

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

D.5.19 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.5.1(c) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does
require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) Coal and Ash Storage and Handling Area, consisting of:

(1) One (1) Coal Unloading Building Aspiration System, identified as Unit ID LA-33, constructed in 1977, with a baghouse (LAC-33) for particulate control, exhausting to stack 22.

Under the NSPS, 40 CFR 60, Subpart Y, LA-33 is considered an affected facility.

(2) One (1) Crusher and Transfer Building Aspiration System, identified as Unit ID LA-34, constructed in 1977, with a baghouse (LAC-34) for particulate control, exhausting to stack 23.

Under the NSPS, 40 CFR 60, Subpart Y, LA-34 is considered an affected facility.

(3) One (1) Coal Storage Silos Top Aspiration System, identified as Unit ID LA-35, constructed in 1977, with a baghouse (LAC-35) for particulate control, exhausting to stack 24.

Under the NSPS, 40 CFR 60, Subpart Y, LA-35 is considered an affected facility.

(4) One (1) Coal Storage Silos Bottom Aspiration System, identified as Unit ID LA-36, constructed in 1977, with a baghouse (LAC-36) for particulate control, exhausting to stack 25.

Under the NSPS, 40 CFR 60, Subpart Y, LA-36 is considered an affected facility.

(5) One (1) Utility Building Aspiration System #1, identified as Unit ID LA-37, constructed in 1977, with a baghouse (LAC-37) for particulate control, exhausting to stack 26.

Under the NSPS, 40 CFR 60, Subpart Y, LA37 is considered an affected facility.

(6) One (1) Utility Building Aspiration System #2, identified as Unit ID LA-38, constructed in 1977, with a baghouse (LAC-38) for particulate control, exhausting to stack 27.

Under the NSPS, 40 CFR 60, Subpart Y, LA-38 is considered an affected facility.

(7) One (1) Coal Silo Aspiration System, identified as Unit ID LA-55, constructed in 1977, with a rotoclone (LAC-55) for particulate control, exhausting to stack 29.

Under the NSPS, 40 CFR 60, Subpart Y, LA-55 is considered an affected facility.

(8) One (1) Coal Bunkers Aspiration, identified as Unit ID LA-56, constructed in 1977, with a rotoclone (LAC-56) for particulate control, exhausting to stack 29.

Under the NSPS, 40 CFR 60, Subpart Y, LA-56 is considered an affected facility.

(9) One (1) Coal Ash Transfer System, identified as Unit ID LA-42A, constructed in 1977, with a baghouse (LAC-42A) for particulate control, exhausting to stack 30B.
(10) One (1) Ash Silo East Aeration Vent, identified as Unit ID LA-42B East, constructed in 1977 and approved in 2016 for modification, controlled by a bin vent, identified as LAC-42B East.

(11) One (1) Ash Silo West Aeration Vent, identified as Unit ID LA-42B West, constructed in 1977 and approved in 2016 for modification, controlled by a bin vent, identified as LAC-42B West.

(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 2-7-5(1)]


Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0343, issued on February 5, 1986, PM emissions from LA-33 through LA-38, LA-42A, and LA-42B (East and West) shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-33</td>
<td>2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-34</td>
<td>2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-35</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-36</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-37</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-38</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-42A</td>
<td>0.33</td>
<td>0.7</td>
</tr>
<tr>
<td>LA-42B (East and West)</td>
<td>0.09</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

D.6.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) Pursuant to Part 70 Operating Permit Renewal No. 157-27033-00033, issued August 14, 2014, the particulate emission rate from LA-55 shall not exceed 1.80 pounds per hour.

(b) Pursuant to Part 70 Operating Permit Renewal No. 157-27033-00033, issued August 14, 2014, the particulate emission rate from LA-56 shall not exceed 0.22 pound per hour.

(c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions rate from the following operations shall not exceed the pound per hour limit (E) when operating at the associated process weight rate as listed in the table below:

<table>
<thead>
<tr>
<th>Process Description</th>
<th>Process Weight Rate (ton/hr)</th>
<th>E 326 IAC 6-3-2 Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-33</td>
<td>10.86</td>
<td>20.27</td>
</tr>
<tr>
<td>LA-34</td>
<td>10.86</td>
<td>20.27</td>
</tr>
<tr>
<td>LA-35</td>
<td>10.86</td>
<td>20.27</td>
</tr>
<tr>
<td>LA-36</td>
<td>10.86</td>
<td>20.27</td>
</tr>
</tbody>
</table>
The PM limits for LA-33, LA-34, LA-35, LA-36, LA-37, LA-38, LA-42A, and LA-42B (East and West) in Condition D.6.1 and the PM limits for LA-55 and LA-56 in Conditions D.6.2(a) and D.6.2(b) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rates for these facilities. Therefore, compliance with the more-stringent limits shall satisfy compliance with 326 IAC 6-3-2.

D.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.6.4 Particulate Control

(a) In order to ensure compliance with Conditions D.6.1 and D.6.2, the control devices listed below shall be in operation and control emissions from the associated process at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse (LAC-33)</td>
<td>LA-33</td>
</tr>
<tr>
<td>Baghouse (LAC-34)</td>
<td>LA-34</td>
</tr>
<tr>
<td>Baghouse (LAC-35)</td>
<td>LA-35</td>
</tr>
<tr>
<td>Baghouse (LAC-36)</td>
<td>LA-36</td>
</tr>
<tr>
<td>Baghouse (LAC-37)</td>
<td>LA-37</td>
</tr>
<tr>
<td>Baghouse (LAC-38)</td>
<td>LA-38</td>
</tr>
<tr>
<td>Rotoclone (LAC-55)</td>
<td>LA-55</td>
</tr>
<tr>
<td>Rotoclone (LAC-56)</td>
<td>LA-56</td>
</tr>
<tr>
<td>Baghouse (LAC-42A)</td>
<td>LA-42A</td>
</tr>
<tr>
<td>Bin Vent (LAC-42B East)</td>
<td>LA-42B East</td>
</tr>
<tr>
<td>Bin Vent (LAC-42B West)</td>
<td>LA-42B West</td>
</tr>
</tbody>
</table>

(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.6.5 Hours of Operation

In order to demonstrate compliance with the limits in Condition D.6.1, the Permittee shall limit the hours of operation as follows based on the listed pound per hour values:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Operational Limit</th>
<th>Allowable Hours Based on the Following Emission Rates (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-33</td>
<td>1130</td>
<td>1.77</td>
</tr>
<tr>
<td>LA-34</td>
<td>2899</td>
<td>0.69</td>
</tr>
<tr>
<td>LA-35</td>
<td>3922</td>
<td>0.51</td>
</tr>
<tr>
<td>LA-36</td>
<td>8,760 (not limited)</td>
<td>0.23</td>
</tr>
<tr>
<td>LA-42A</td>
<td>8,760 (not limited)</td>
<td>0.16</td>
</tr>
<tr>
<td>LA-42B (East and West)</td>
<td>8,760 (not limited)</td>
<td>0.023</td>
</tr>
</tbody>
</table>

Notes:
1. Hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

D.6.6 Testing Requirements [326 IAC 2-1.1-11]

(a) Not later than 180 days after the issuance date of this permit, Permit No 157-36348-00033, the Permittee shall perform PM testing of the Coal Storage Silos Bottom Aspiration System (LA-36) utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) Not later than 180 days after the issuance date of this permit, Permit No 157-36348-00033, the Permittee shall perform PM testing of the Coal Ash Transfer System (LA-42A) utilizing methods approved by the commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(c) 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 2-7-5(1)][326 IAC 2-7-6(1)]

D.6.7 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from LA-33, LA-34, LA-35, LA-36, LA-37, LA-38, LA-55, and LA-42A (stacks 22, 23, 24, 25, 26, 27, 28, and 30B) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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. Failure to take response steps shall be considered a deviation from this permit.
D.6.8 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from LA-56, LA-42B East, and LA-42B West (stack 29, bin vent LAC-42B East, and bin vent LAC-42B West) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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. Failure to take response steps shall be considered a deviation from this permit.

D.6.9 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.6.10 Rotoclone Failure Detection

In the event that a rotoclone malfunction has been observed:

(a) For a rotoclone controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a rotoclone controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency
and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.6.11 Record Keeping Requirements

(a) To document the compliance status with Conditions D.6.1 and D.6.5, the Permittee shall maintain monthly records of the hours of operation for LA-33, LA-34, and LA-35.

(b) To document the compliance status with Conditions D.6.6 and D.6.7, the Permittee shall maintain records of the once per day visible emission notations from LA-33, LA-34, LA-35, LA-36, LA-37, LA-38, LA-55, LA-56, LA-42A, LA-42B East and LA-42B West (stacks 22, 23, 24, 25, 26, 27, 28, 29, and 30B, and bin vents LAC-42B East and LAC-42B West). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

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

D.6.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.6.5 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
SECTION D.7  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities:

(k) Coal bunker and coal scale exhausts and associated dust collector vents.

Under the NSPS, 40 CFR 60, Subpart Y, coal storage systems, transfer, and loading systems are affected facilities.

(p) Vents from ash transport systems not operated at positive pressure.

(r) An emission unit or activity whose potential uncontrolled emissions meet the exemption levels specified in 326 IAC 2-1.1-3(e)(1) or the exemption levels specified in the following, whichever is lower:

- For lead or lead compounds measured as elemental lead, the exemption level is six-tenths (0.6) ton per year or three and twenty-nine hundredths (3.29) pounds per day.
- For carbon monoxide (CO), the exemption limit is twenty-five (25) pounds per day.
- For sulfur dioxide, the exemption level is five (5) pounds per hour or twenty-five (25) pounds per day.
- For VOC, the exemption limit is three (3) pounds per hour or fifteen (15) pounds per day.
- For nitrogen oxides (NOx), the exemption limit is five (5) pounds per hour or twenty-five (25) pounds per day.
- For PM₁₀ or direct PM₂.₅, the exemption level is either five (5) pounds per hour or twenty-five (25) pounds per day.

As follows:

(8) Starch/Gluten Loadout, exhausting to stack 8.
(12) Salt Storage Tank, exhausting to stack 12.
(51) Soda Ash Head Tank, exhausting to stack 52. (out of service)
(60) Germ Day Bin, exhausting to stack 61.

(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 2-7-5(1)]

D.7.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the insignificant activities listed in this section shall be limited using one of the following:

(a) Those activities with a process weight rate of less than 100 pounds per hour shall be limited to 0.551 pounds per hour.

Or:

(b) Interpolation of the data for the process weight rate up to 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
SECTION D.8  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) A cogeneration system, approved in 2019 for construction, as follows:

(1) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #1 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #1 is a new affected source.

(2) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #2 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #2 is a new affected source.

(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 2-7-5(1)]

D.8.1 Particulate Emissions [326 IAC 6-2-4]

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>Unit ID</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat recovery steam generator #1</td>
<td>LA-84 HRSG #1</td>
<td>0.6</td>
</tr>
<tr>
<td>Heat recovery steam generator #2</td>
<td>LA-85 HRSG #2</td>
<td>0.6</td>
</tr>
</tbody>
</table>

D.8.2 NO\textsubscript{2} Emissions from Large Affected Units [326 IAC 10-2]

(a) Pursuant to 326 IAC 10-2-3, the Permittee, and to the extent applicable, the designated representative, shall comply with the monitoring, record keeping, and reporting requirements as provided in 326 IAC 10-2 and in 40 CFR 75, Subpart H.

(1) The Permittee shall do the following:

(A) Install all monitoring systems required under this section for monitoring NO\textsubscript{x} ozone season mass emissions and individual unit heat input. This includes all systems required to monitor the following operating parameters in accordance with 40 CFR 75.71 and 40 CFR 75.72, as applicable:

(i) NO\textsubscript{x} emission rate.
(ii) NO\textsubscript{x} concentration.
(iii) Stack gas moisture content.
(iv) Stack gas flow rate.
(v) Carbon dioxide (CO\textsubscript{2}) or ozone (O\textsubscript{3}) concentration.
(vi) Fuel flow rate.

(B) Complete all certification tests required under section 5(b) of this rule and meet all other requirements of this section and 40 CFR 75 applicable to the monitoring systems under subdivision (A).

(C) Record, report, and quality assure the data from the monitoring systems under subdivision (A).

(2) The designated representative for a large affected unit shall submit written notice to the department and U.S. EPA in accordance with 40 CFR 75.61.

(3) The Permittee is subject to the applicable provisions of 40 CFR 75 concerning units in long term cold storage.

(4) The prohibitions in 40 CFR 75.70(c) apply to any monitoring system, alternative monitoring system, alternative reference method, or any other alternative for a continuous emissions monitoring system required under this rule.

(b) Pursuant to 326 IAC 10-2-4(a), the Permittee shall record, report, and quality assure the data from the monitoring systems under 326 IAC 10-2-3(b)(1) on and after the following dates:

(1) For the owner or operator of a large affected unit that commences operation after the effective date of 326 IAC 10-2, and that reports on an annual basis under 326
IAC 10-2-8(b), by one hundred eighty (180) calendar days after the date on which the unit commences commercial operation.

(2) For the owner or operator of a large affected unit that commences operation after the effective date of this rule, and that reports on a control period basis under 326 IAC 10-2-8(b), by the later of the following dates:

(A) One hundred eighty (180) calendar days after the date on which the unit commences commercial operation.

(B) If the compliance date under clause (A) is not during a control period, then by May 1 immediately following the compliance date under clause (A).

(c) Pursuant to 326 IAC 10-2-4(b), the owner or operator of a large affected unit that does not meet the applicable compliance date set forth in 326 IAC 10-2-4(a) for any monitoring system under 326 IAC 10-2-3 shall, for each monitoring system, determine, record, and report maximum potential or, as appropriate, minimum potential, values for the following:

(1) NOx emission rate.
(2) NOx concentration.
(3) Stack gas moisture content.
(4) Stack gas flow rate.
(5) Fuel flow rate.
(6) Any other parameters required to determine NOx mass emissions and heat input in accordance with the following, as applicable:

(A) 40 CFR 75.31(b)(2).
(B) 40 CFR 75.31(c)(3).
(C) 40 CFR 75, Appendix D, Section 2.4.
(D) 40 CFR 75, Appendix E, Section 2.5.

(d) Pursuant to 326 IAC 10-2-5(c), the Permittee shall comply with the initial certification and recertification procedures in 40 CFR 75.20 for a continuous monitoring system (a continuous emission monitoring system or an excepted monitoring system under 40 CFR 75, Appendix D or 40 CFR 75, Appendix E). The owner or operator of a unit that qualifies to use the low mass emissions (LME) excepted monitoring methodology under 40 CFR 75.19 or that qualifies to use an alternative monitoring system under 40 CFR 75, Subpart E shall comply with the procedures in paragraph (e), below, or 326 IAC 10-2-7(b), respectively.

(e) Pursuant to 326 IAC 10-2-5(d), the owner or operator of a unit qualified under 40 CFR 75.19 to use the LME excepted methodology shall meet the applicable certification and recertification requirements in 40 CFR 75.19(a)(2) and 40 CFR 75.20(h). If the owner or operator of the unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall meet the certification and recertification requirements in 40 CFR 75.20(g).

(f) Pursuant to 326 IAC 10-2-6, if a monitoring system fails to meet the quality assurance and quality control requirements or data validation requirements of 40 CFR 75, data must be substituted using the applicable missing data procedures from one (1) of the following:

(1) 40 CFR 75, Subpart D.
(2) 40 CFR 75, Subpart H.
(3) 40 CFR 75, Appendix D.
(4) 40 CFR 75, Appendix E.
(g) Pursuant to 326 IAC 10-2-7(a), a petition under 40 CFR 75.66 requesting approval of alternatives to any requirement of section 3, 4, 5, 6, or 8 of 326 IAC 10-2 may be made as follows:

(1) The designated representative of a large affected unit that is not subject to an acid rain limitation may submit a petition to both the department and U.S. EPA requesting approval to apply an alternative to any requirement of section 3, 4, 5, 6, or 8 of 326 IAC 10-2. The designated representative may not use the alternative unless the alternative is approved in writing by both the department and U.S. EPA.

(h) Pursuant to 326 IAC 10-2-7(b), the designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by U.S. EPA and, if applicable, the department under 40 CFR 75, Subpart E, shall comply with the applicable notification and application procedures of 40 CFR 75.20(f).

(i) Pursuant to 326 IAC 10-2-8(a), the designated representative of a large affected unit shall comply with all applicable record keeping and reporting requirements in 326 IAC 10-2-8 and 40 CFR 75.73, as follows:

(A) The Permittee shall comply with requirements of both:

(i) 40 CFR 75.73(c); and
(ii) 40 CFR 75.73(e).

(B) The designated representative shall submit an application to the department within forty-five (45) days after completing all initial certification or recertification tests required under 326 IAC 10-2-5, including the information required under 40 CFR 75.63.

(j) Pursuant to 326 IAC 10-2-8(b), the designated representative shall submit quarterly reports as follows:

(1) If the owner or operator of the unit chooses to report on an annual basis under this section, the designated representative shall:

(A) Meet the requirements of 40 CFR 75, Subpart H for the entire year; and

(B) Report the NOx mass emissions data and heat input data in an electronic quarterly report in a format prescribed by U.S. EPA, for each calendar quarter corresponding to the earlier of:

(i) The date of provisional certification; or

(ii) For a unit that commences commercial operation on or after the effective date of this rule, the calendar quarter corresponding to the earlier of:

(a) The date of provisional certification; or

(b) The applicable deadline for initial certification under 326 IAC 10-2-4(a).
(2) If the large affected unit is not subject to an acid rain emissions limitation, the designated representative shall meet either of the following requirements:

(A) If the owner or operator chooses to report on an annual basis, both of the following:

(i) Meet the requirements of 40 CFR 75, Subpart H for the entire year.
(ii) Report the NOx mass emissions data and heat input data for the unit in accordance with this clause.

(B) If the owner or operator does not choose to report on an annual basis, both of the following:

(i) Meet the requirements of 40 CFR 75, Subpart H for the control period.

(ii) Report NOx mass emissions data and heat input data for the control period in an electronic quarterly report in a format prescribed by U.S. EPA, for each calendar year beginning with:

(a) The effective date of this rule; or

(b) For a unit that commences commercial operation on or after the effective date of this rule, the calendar quarter corresponding to the earlier of:

(1) if it falls during the control period, the date of provisional certification;
(2) if it falls during the control period, the applicable deadline for initial certification under 326 IAC 10-2-4(a); or
(3) if neither subitem (1) nor (2) fall during the control period, the quarter that includes May 1 through June 20 of the first control period after the date of provisional certification or the applicable deadline for initial certification under 326 IAC 10-2-4(a).

(3) For all large affected units subject to 326 IAC 10-2, the designated representative shall submit quarterly reports to U.S. EPA within thirty (30) days following the end of the calendar quarter covered by the report in the manner specified in 40 CFR 75.73(f).

(k) Pursuant to 326 IAC 10-2-8(c), the designated representative shall submit to U.S. EPA a compliance certification, in a format prescribed by U.S. EPA, in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification must state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this section and 40 CFR 75, including the quality assurance procedures and specifications;
(2) For a unit that is reporting on a control period basis under 326 IAC 10-2-8(b)(2)(B), the NOx mass emission rate and NOx concentration values substituted for missing data under 40 CFR 75, Subpart D are calculated using only values from a control period and do not systematically underestimate NOx emissions.

D.8.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.8.4 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 2-7-6(1),(6)] [40 CFR 60, Subpart KKKK]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) continuous emission monitoring systems for LA-84 and LA-85 shall be calibrated, maintained, and operated for measuring NOx and O2 or CO2, which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emissions monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5 and 40 CFR 60.

D.8.5 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate the cogen system installation is minor under 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and to demonstrate compliance with Condition D.0.1(a) and (b), not later than 180 days after the startup of the first of Cogen Unit LA-84 or Cogen Unit LA-85, the Permittee shall perform PM10, PM2.5, and CO testing (before controls) of the turbine and HRSG to verify the PM10, PM2.5, and CO emission factors, utilizing methods approved by the commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

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

D.8.6 NOx and O2 or CO2 Continuous Emissions Monitoring (CEMS) Equipment Downtime

In the event that a breakdown of a NOx and O2 or CO2 continuous emissions monitoring system (CEMS) occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.

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

D.8.7 Record Keeping Requirement

(a) Pursuant to 326 IAC 10-2-8(d)(1), unless otherwise provided, the Permittee shall keep on site each of the following documents:

(1) The current certificate of representation for the designated representative for each large affected unit, and all documents that demonstrate the truth of the statements in the certificate of representation.
(2) All emissions monitoring information, in accordance with 326 IAC 10-2-3, with retention for a minimum of three (3) years.

(3) Copies of all reports and other submissions and all records made or required under 326 IAC 10-2 for a period of five (5) years from the date the document was created.

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

D.8.8 Record Keeping Requirements for CEMS [326 IAC 2-7-5(3)(B)] [326 IAC 3-5]

(a) The Permittee shall record the output of the NOx and O2 or CO2 continuous monitoring system(s) pound per hour and shall perform the required record keeping pursuant to 326 IAC 3-5-6 and 326 IAC 3-5-7.

(b) In the event that a breakdown of the NOx and O2 or CO2 continuous emission monitoring systems (CEMS) occurs, the Permittee shall maintain records of all CEMS malfunctions, out of control periods, calibration and adjustment activities, and repair or maintenance activities.

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

D.8.9 Reporting Requirement

Pursuant to 326 IAC 10-2-8(d)(2), the designated representative of each large affected unit at the source shall submit the reports required under Condition D.8.2 and 326 IAC 10-2. Section C - General Reporting Requirements contains the Permittee’s obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1(35).

D.8.10 Reporting Requirements for CEMS [326 IAC 2-7-5(3)(C)] [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5-5(f)(1), the Permittee shall prepare and submit to IDEM, OAQ a written report for performance audits as follows:

(1) Owners or operators of emissions units required to conduct a:

(A) cylinder gas audit;
(B) relative accuracy test audit; or
(C) continuous opacity monitor calibration error audit;

on continuous emission monitors shall prepare a written report of the results of the performance audit for each calendar quarter, or for other periods required by the department. The owner or operator shall submit quarterly reports to the department within thirty (30) calendar days after the end of each quarter for cylinder gas audits and continuous opacity monitor calibration error audits and within forty-five (45) calendar days after the completion of the test for relative accuracy test audits.

(2) The report must contain the information required by 326 IAC 3-5-5(f)(2).

(b) Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) date of downtime;
(2) time of commencement;
(3) duration of each downtime;
(4) reasons for each downtime; and
(5) nature of system repairs and adjustments.

(c) The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1 (35).
### Emissions Unit Description:

(f) Coal and Ash Storage and Handling Area, consisting of:

1. **One (1) Coal Unloading Building Aspiration System, identified as Unit ID LA-33,** constructed in 1977, with a baghouse (LAC-33) for particulate control, exhausting to stack 22.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-33 is considered an affected facility.

2. **One (1) Crusher and Transfer Building Aspiration System, identified as Unit ID LA-34,** constructed in 1977, with a baghouse (LAC-34) for particulate control, exhausting to stack 23.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-34 is considered an affected facility.

3. **One (1) Coal Storage Silos Top Aspiration System, identified as Unit ID LA-35,** constructed in 1977, with a baghouse (LAC-35) for particulate control, exhausting to stack 24.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-35 is considered an affected facility.

4. **One (1) Coal Storage Silos Bottom Aspiration System, identified as Unit ID LA-36,** constructed in 1977, with a baghouse (LAC-36) for particulate control, exhausting to stack 25.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-36 is considered an affected facility.

5. **One (1) Utility Building Aspiration System #1, identified as Unit ID LA-37,** constructed in 1977, with a baghouse (LAC-37) for particulate control, exhausting to stack 26.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-37 is considered an affected facility.

6. **One (1) Utility Building Aspiration System #2, identified as Unit ID LA-38,** constructed in 1977, with a baghouse (LAC-38) for particulate control, exhausting to stack 27.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-38 is considered an affected facility.

7. **One (1) Coal Silo Aspiration System, identified as Unit ID LA-55,** constructed in 1977, with a rotoclonne (LAC-55) for particulate control, exhausting to stack 28.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-55 is considered an affected facility.

8. **One (1) Coal Bunkers Aspiration,** identified as Unit ID LA-56, constructed in 1977, with a rotoclonne (LAC-56) for particulate control, exhausting to stack 29.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-56 is considered an affected facility.

### Insignificant Activities:

(k) Coal bunker and coal scale exhausts and associated dust collector vents.
Under the NSPS, 40 CFR 60, Subpart Y, coal storage systems, transfer, and loading systems are affected facilities.

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

**New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]**

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

- (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 unit(s) listed above, except as otherwise specified in 40 CFR 60, Subpart Y.

- (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 Standards of Performance for Coal Preparation Plants [326 IAC 12] [40 CFR Part 60, Subpart Y]**

- The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Y (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

  (1) 40 CFR 60.250(a), (b)
  (2) 40 CFR 60.251
  (3) 40 CFR 60.254(a)
  (4) 40 CFR 60.255(a)
  (5) 40 CFR 60.257(a)
  (6) 40 CFR 60.258(b)(3), (c), (d)

**Compliance Determination Requirements [326 IAC 2-7-5(1)]**

**E.1.3 Testing Requirements [326 IAC 2-1.1-11] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- In order to document the compliance status with Condition E.1.2, the Permittee shall perform the testing required under 40 CFR 60, Subpart Y utilizing methods as approved by the Commissioner, at least once every five (5) years from the date of the most recent valid compliance demonstration. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
SECTION E.2  NSPS

Emissions Unit Description:

(g) A cogeneration system, approved in 2019 for construction, as follows:

(1) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #1 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #1 is a new affected source.

(2) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #2 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #2 is a new affected source.

(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 2-7-5(1)]

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

(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 unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart KKKK.

(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.2.2 Standards of Performance for Stationary Combustion Turbines NSPS [326 IAC 12] [40 CFR Part 60, Subpart KKKK]

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

(1) 40 CFR 60.4300
(2) 40 CFR 60.4305
(3) 40 CFR 60.4315
(4) 40 CFR 60.4320(a)
(5) 40 CFR 60.4330(a)(1)
(6) 40 CFR 60.4330(a)(2)
(7) 40 CFR 60.4333
(8) 40 CFR 60.4335(b)
(9) 40 CFR 60.4340(b)
(10) 40 CFR 60.4345
(11) 40 CFR 60.4350
(12) 40 CFR 60.4360
(13) 40 CFR 60.4365(a)
(14) 40 CFR 60.4375(a)
(15) 40 CFR 60.4380(b)
(16) 40 CFR 60.4395
(17) 40 CFR 60.4405
(18) 40 CFR 60.4420
(19) Table 1 to Subpart KKKK of Part 60
SECTION E.3  NESHAP

Emissions Unit Description:

(g) A cogeneration system, approved in 2019 for construction, as follows:

(1) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #1 is a new affected source.

(2) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #2 is a new affected source.

(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 2-7-5(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 YYYY.

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
E.3.2 National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart YYYY (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 20-90, for the emission unit(s) listed above:

(1) 40 CFR 63.6080
(2) 40 CFR 63.6085
(3) 40 CFR 63.6090(a)(2)
(4) 40 CFR 63.6092
(5) 40 CFR 63.6095(c)
(6) 40 CFR 63.6095(d)
(7) 40 CFR 63.6100
(8) 40 CFR 63.6105
(9) 40 CFR 63.6110
(10) 40 CFR 63.6115
(11) 40 CFR 63.6120
(12) 40 CFR 63.6125
(13) 40 CFR 63.6130
(14) 40 CFR 63.6135
(15) 40 CFR 63.6140
(16) 40 CFR 63.6145(a)
(17) 40 CFR 63.6145(c)
(18) 40 CFR 63.6145(d)
(19) 40 CFR 63.6145(e)
(20) 40 CFR 63.6145(f)
(21) 40 CFR 63.6150
(22) 40 CFR 63.6155
(23) 40 CFR 63.6160
(24) 40 CFR 63.6165
(25) 40 CFR 63.6170
(26) 40 CFR 63.6175
(27) Table 1 to Subpart YYYY of Part 63
(28) Table 2 to Subpart YYYY of Part 63
(29) Table 3 to Subpart YYYY of Part 63
(30) Table 4 to Subpart YYYY of Part 63
(31) Table 5 to Subpart YYYY of Part 63
(32) Table 6 to Subpart YYYY of Part 63
(33) Table 7 to Subpart YYYY of Part 63
SECTION E.4  NESHAP

Emissions Unit Description:

Insignificant Activities:

(o) Activities associated with emergencies as follows:

(1) On-site fire training approved by IDEM.

(2) Emergency generators as follows:

(A) One (1) diesel-fueled, compression-ignition emergency generator, identified as LA-603, manufactured and installed in 1976, with a site rating of 938 HP.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the emergency generator is considered an existing affected source.

(3) Stationary fire pump engines as follows:

(A) One (1) diesel-fueled, compression-ignition emergency fire pump, identified as LA-604, manufactured and installed in 1976, with a site rating of 258 HP.

Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the emergency fire pump is considered an existing affected source.

(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 2-7-5(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


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:
(a) Emergency Generator:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (b)
(3) 40 CFR 63.6590(a)(1)(i), (b)(3)(iii)
(4) 40 CFR 63.6665
(5) 40 CFR 63.6670
(6) 40 CFR 63.6675

(b) Emergency Fire Pump:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (b)
(3) 40 CFR 63.6590(a)(1)(ii)
(4) 40 CFR 63.6595(a)(1), (c)
(5) 40 CFR 63.6602
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e)(2), (f), (h), (i)
(8) 40 CFR 63.6640(a), (b), (e), (f)(1), (2)(i), (3)
(9) 40 CFR 63.6645(a)(5)
(10) 40 CFR 63.6650(c), (d), (f)
(11) 40 CFR 63.6655
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2c to Subpart ZZZZ of Part 63, item 1
(17) Table 6 to Subpart ZZZZ of Part 63, item 9
(18) Table 8 to Subpart ZZZZ of Part 63
SECTION E.5  NESHAP

Emissions Unit Description:

(c) Feed House and Boiler House Area, consisting of:

(1) One (1) natural gas/No. 2 fuel oil fired Zurn Boiler, identified as Unit ID LA-44, constructed in 1977, with a maximum heat input of 227 MMBtu/hr, with no emission control device, exhausting to stack 34.

Under 40 CFR 63, Subpart DDDDD, LA-44 is considered part of an existing affected source.

(2) One (1) coal fired Riley Stoker Boiler, identified as Unit ID LA-45, constructed in 1977, with a maximum heat input of 239 MMBtu/hr, with a multiclone (539113) and an electrostatic precipitator (539115) for particulate control, with a scrubber (LAC-68) installed in 2015 for particulate, SO2, and HCl control, exhausting to stack 4.

Under 40 CFR 63, Subpart DDDDD, LA-45 is considered an existing affected source.

(3) One (1) natural gas fired Cleaver Brooks Boiler, identified as Unit ID LA-46, constructed in 1980, with a maximum heat input of 49 MMBtu/hr, with no emission control device, exhausting to stack 5.

Under 40 CFR 63, Subpart DDDDD, LA-46 is considered part of an existing affected source.

(g) A cogeneration system, approved in 2019 for construction, as follows:

(1) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #1 is a new affected source.

(2) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #2 is a new affected source.

(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 2-7-5(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 DDDDD.

(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.5.2 National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD] [326 IAC 20-95]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart DDDDD (included as Attachment E to the operating permit), which are incorporated by reference as 326 IAC 20-95:

(a) Zurn Boiler (LA-44) and Cleaver Brooks Boiler (LA-46):

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a)(1), (d)
(4) 40 CFR 63.7495(b), (d)
(5) 40 CFR 63.7499(l)
(6) 40 CFR 63.7500(a)(1), (a)(3), (b), (e), (f)
(7) 40 CFR 63.7505(a)
(8) 40 CFR 63.7515(d)
(9) 40 CFR 63.7530(e), (f)
(10) 40 CFR 63.7540(a)(10), (a)(13), (b)
(11) 40 CFR 63.7545(a), (b), (e)(1), (e)(8), (f), (h)
(12) 40 CFR 63.7550(a), (b), (c)(1), (c)(5)(i)-(iv), (c)(5)(xiv), (h)(1), (h)(3)
(13) 40 CFR 63.7555(a), (h), (i), (j)
(14) 40 CFR 63.7560
(15) 40 CFR 63.7565
(16) 40 CFR 63.7570
(17) 40 CFR 63.7575
(18) Table 3 to Subpart DDDDD of Part 63, items (3), (4)
(19) Table 9 to Subpart DDDDD of Part 63
(20) Table 10 to Subpart DDDDD of Part 63

(b) Riley Stoker Boiler (LA-45):

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a)(1), (d)
(4) 40 CFR 63.7495(b), (d)
(5) 40 CFR 63.7499(b)
(6) 40 CFR 63.7500(a), (b), (f)
(7) 40 CFR 63.7505(a), (c)
(8) 40 CFR 63.7510(a), (b), (c), (d), (e)
(9) 40 CFR 63.7515(a), (b), (c), (d), (e), (f), (g)
(10) 40 CFR 63.7520
(11) 40 CFR 63.7521(a), (b), (c), (d), (e)
(12) 40 CFR 63.7525(a), (c), (e), (f), (g), (h)
(13) 40 CFR 63.7530(a), (b), (c), (e), (f), (h)
(14) 40 CFR 63.7533
(15) 40 CFR 63.7535
(16) 40 CFR 63.7540(a)(1), (a)(2), (a)(3), (a)(5), (a)(10), (a)(13), (b), (d)
(17) 40 CFR 63.7545(a), (b), (d), (e), (h)
(18) 40 CFR 63.7550(a), (b), (c), (d), (h)(1), (h)(3)
(19) 40 CFR 63.7555(a), (c), (d), (f), (i), (j)
(20) 40 CFR 63.7560
(21) 40 CFR 63.7565
(22) 40 CFR 63.7570
(23) 40 CFR 63.7575
(24) Table 2 to Subpart DDDDD of Part 63, items (1), (2), (4)
(25) Table 3 to Subpart DDDDD of Part 63, items (3), (4), (5), (6)
(26) Table 4 to Subpart DDDDD of Part 63, items (1), (2), (7), (8), (9)
(27) Table 5 to Subpart DDDDD of Part 63, items (1), (3), (4), (5)
(28) Table 6 to Subpart DDDDD of Part 63, items (1), (2)
(29) Table 7 to Subpart DDDDD of Part 63, items (1)(b), (2)(a), (4), (5)
(30) Table 8 to Subpart DDDDD of Part 63, items (1), (4), (5), (7), (8), (9), (10)
(31) Table 9 to Subpart DDDDD of Part 63
(32) Table 10 to Subpart DDDDD of Part 63

(c) Heat recovery steam generators (HRSG #1 and HRSG #2):

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a)(2), (d)
(4) 40 CFR 63.7495(a), (d)
(5) 40 CFR 63.7499(l)
(6) 40 CFR 63.7500(a)(1), (3), (b), (f)
(7) 40 CFR 63.7505(a)
(8) 40 CFR 63.7530(f)
(9) 40 CFR 63.7540(a)(10), (b)
(10) 40 CFR 63.7545(a), (c), (e)
(11) 40 CFR 63.7550
(12) 40 CFR 63.7555
(13) 40 CFR 63.7560
(14) 40 CFR 63.7565
(15) 40 CFR 63.7570
(16) 40 CFR 63.7575
(17) Table 3 to Subpart DDDDD of Part 63 (item 3)
(18) Table 9 to Subpart DDDDD of Part 63
(19) Table 10 to Subpart DDDDD of Part 63
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Tate & Lyle Ingredients Americas, LLC
Source Address: 3300 US 52 South, Lafayette, Indiana 47905
Part 70 Permit No.: T157-40694-00033

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter
☐ Test Result (specify)
☐ Report (specify)
☐ Notification (specify)
☐ Affidavit (specify)
☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:  
Printed Name: 
Title/Position: 
Phone: 
Date:
PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Tate & Lyle Ingredients Americas, LLC
Source Address: 3300 US 52 South, Lafayette, Indiana 47905
Part 70 Permit No.: T157-40694-00033

This form consists of 2 pages Page 1 of 2

☐ This is an emergency as defined in 326 IAC 2-7-1(12)
  • The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
  • The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:
<table>
<thead>
<tr>
<th>Date/Time Emergency started:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time Emergency was corrected:</td>
</tr>
<tr>
<td>Was the facility being properly operated at the time of the emergency?</td>
</tr>
<tr>
<td>Type of Pollutants Emitted: TSP, PM-10, SO(_2), VOC, NO(_x), CO, Pb, other:</td>
</tr>
<tr>
<td>Estimated amount of pollutant(s) emitted during emergency:</td>
</tr>
<tr>
<td>Describe the steps taken to mitigate the problem:</td>
</tr>
<tr>
<td>Describe the corrective actions/response steps taken:</td>
</tr>
<tr>
<td>Describe the measures taken to minimize emissions:</td>
</tr>
<tr>
<td>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:</td>
</tr>
</tbody>
</table>

Form Completed by: ________________________________
Title / Position: ________________________________
Date: ________________________________
Phone: ________________________________
Indian Department of Environmental Management  
Office of Air Quality  
Compliance and Enforcement Branch  

Part 70 Quarterly Report  

Source Name: Tate & Lyle Ingredients Americas, LLC  
Source Address: 3300 US 52 South, Lafayette, Indiana 47905  
Part 70 Permit No.: T157-40694-00033  
Facility: LA-45, LA-84, and LA-85  
Parameter: PM10 Emissions  
Limit: The total combined PM10 emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 69.90 tons per twelve consecutive month period with compliance determined at the end of each month.  

<table>
<thead>
<tr>
<th>QUARTER : ___________________</th>
<th>YEAR: ___________________</th>
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</thead>
<tbody>
<tr>
<td>Month</td>
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<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
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</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: _______________________________
**Part 70 Quarterly Report**

Source Name: Tate & Lyle Ingredients Americas, LLC  
Source Address: 3300 US 52 South, Lafayette, Indiana 47905  
Part 70 Permit No.: T157-40694-00033  
Facility: LA-45, LA-84 and LA-85  
Parameter: PM$_{2.5}$ Emissions  
Limit: The total combined PM$_{2.5}$ emissions from the coal and ash storage and handling area, coal-fired Riley Stoker boiler (LA-45), and cogeneration units (LA-84 and LA-85) shall be less than 64.90 tons per twelve consecutive month period with compliance determined at the end of each month.

<table>
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<tr>
<th>QUARTER :</th>
<th>YEAR:</th>
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<tbody>
<tr>
<td>Month</td>
<td>Column 1</td>
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<tr>
<td>This Month</td>
<td>Previous 11 Months</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:  

## Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas, LLC  
Source Address: 3300 US 52 South, Lafayette, Indiana 47905  
Part 70 Permit No.: T157-40694-00033  
Facility: LA-45, LA-84, and LA-85  
Parameter: NOx Emissions  
Limit: The total combined NOx emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 461.00 tons per twelve consecutive month period with compliance determined at the end of each month.

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<td>12 Month Total</td>
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</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: ________________________________
### Part 70 Quarterly Report

**Source Name:** Tate & Lyle Ingredients Americas, LLC  
**Source Address:** 3300 US 52 South, Lafayette, Indiana 47905  
**Part 70 Permit No.:** T157-40694-00033  
**Facility:** LA-75  
**Parameter:** Amount of steam vented directly to the atmosphere  
**Limit:** Shall not exceed 25,000,000 pounds per twelve (12) consecutive month period, with compliance determined for the end of each month.

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<td>Month</td>
<td>Steam Vented (lb)</td>
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<td></td>
<td>This Month</td>
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</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

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas, LLC
Source Address: 3300 US 52 South, Lafayette, Indiana 47905
Part 70 Permit No.: T157-40694-00033
Facility: LA-33
Parameter: Hours of Operation
Limit: Shall not exceed 1127 hours per twelve (12) consecutive month period, with compliance determined for the end of each month.

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<table>
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<tr>
<th>Month</th>
<th>Hours of Operation</th>
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<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: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas, LLC
Source Address: 3300 US 52 South, Lafayette, Indiana 47905
Part 70 Permit No.: T157-40694-00033
Facility: LA-34
Parameter: Hours of Operation
Limit: Shall not exceed 2917 hours per twelve (12) consecutive month period, with compliance determined for the end of each month.

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<th>YEAR</th>
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<table>
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<tr>
<th>Month</th>
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<tbody>
<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
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- 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: Tate & Lyle Ingredients Americas, LLC  
Source Address: 3300 US 52 South, Lafayette, Indiana 47905  
Part 70 Permit No.: T157-40694-00033  
Facility: LA-35  
Parameter: Hours of Operation  
Limit: Shall not exceed 3889 hours per twelve (12) consecutive month period, with compliance determined for the end of each month.

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<tr>
<td>Month</td>
<td>This Month</td>
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- □ No deviation occurred in this quarter.  
- □ Deviation/s occurred in this quarter.  
  Deviation has been reported on:  

Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:  

---

**Part 70 Quarterly Report**
This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

- [ ] NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
- [ ] THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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

Form Completed by: ____________________________
Title / Position: ____________________________
Date: ____________________________
Phone: ____________________________
Attachment A
Part 70 Operating Permit No: 157-40694-00033

[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 Y—Standards of Performance for Coal Preparation and Processing Plants

Source: 74 FR 51977, Oct. 8, 2009, unless otherwise noted.

§ 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day.

(b) The provisions in § 60.251, § 60.252(a), § 60.253(a), § 60.254(a), § 60.255(a), and § 60.256(a) of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after October 27, 1974, and on or before April 28, 2008: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems.

(c) The provisions in § 60.251, § 60.252(b)(1) and (c), § 60.253(b), § 60.254(b), § 60.255(b) through (h), § 60.256(b) and (c), § 60.257, and § 60.258 of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after April 28, 2008, and on or before May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems.

(d) The provisions in § 60.251, § 60.252(b)(1) through (3), and (c), § 60.253(b), § 60.254(b) and (c), § 60.255(b) through (h), § 60.256(b) and (c), § 60.257, and § 60.258 of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, transfer and loading systems, and open storage piles.

§ 60.251 Definitions.

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

(a) Anthracite means coal that is classified as anthracite according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17).

(b) Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust loadings) in the exhaust of a fabric filter to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

(c) Bituminous coal means solid fossil fuel classified as bituminous coal by ASTM D388 (incorporated by reference—see § 60.17).
(d) **Coal** means:

1. For units constructed, reconstructed, or modified on or before May 27, 2009, all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference—see § 60.17).

2. For units constructed, reconstructed, or modified after May 27, 2009, all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference—see § 60.17), and coal refuse.

(e) **Coal preparation and processing plant** means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(f) **Coal processing and conveying equipment** means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts. Equipment located at the mine face is not considered to be part of the coal preparation and processing plant.

(g) **Coal refuse** means waste products of coal mining, physical coal cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

(h) **Coal storage system** means any facility used to store coal except for open storage piles.

(i) **Design controlled potential PM emissions rate** means the theoretical particulate matter (PM) emissions (Mg) that would result from the operation of a control device at its design emissions rate (grams per dry standard cubic meter (g/dscm)), multiplied by the maximum design flow rate (dry standard cubic meter per minute (dscm/min)), multiplied by 60 (minutes per hour (min/hr)), multiplied by 8,760 (hours per year (hr/yr)), divided by 1,000,000 (megagrams per gram (Mg/g)).

(j) **Indirect thermal dryer** means a thermal dryer that reduces the moisture content of coal through indirect heating of the coal through contact with a heat transfer medium. If the source of heat (the source of combustion or furnace) is subject to another subpart of this part, then the furnace and the associated emissions are not part of the affected facility. However, if the source of heat is not subject to another subpart of this part, then the furnace and the associated emissions are part of the affected facility.

(k) **Lignite** means coal that is classified as lignite A or B according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17).

(l) **Mechanical vent** means any vent that uses a powered mechanical drive (machine) to induce air flow.

(m) **Open storage pile** means any facility, including storage area, that is not enclosed that is used to store coal, including the equipment used in the loading, unloading, and conveying operations of the facility.

(n) **Operating day** means a 24-hour period between 12 midnight and the following midnight during which coal is prepared or processed at any time by the affected facility. It is not necessary that coal be prepared or processed the entire 24-hour period.

(o) **Pneumatic coal-cleaning equipment** means:

1. For units constructed, reconstructed, or modified on or before May 27, 2009, any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

2. For units constructed, reconstructed, or modified after May 27, 2009, any facility which classifies coal by size or separates coal from refuse by application of air stream(s).
(p) Potential combustion concentration means the theoretical emissions (nanograms per joule (ng/J) or pounds per million British thermal units (lb/MMBtu) heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems, as determined using Method 19 of appendix A-7 of this part.

(q) Subbituminous coal means coal that is classified as subbituminous A, B, or C according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17).

(r) Thermal dryer means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(2) For units constructed, reconstructed, or modified after May 27, 2009, any facility in which the moisture content of coal is reduced by either contact with a heated gas stream which is exhausted to the atmosphere or through indirect heating of the coal through contact with a heated heat transfer medium.

(s) Transfer and loading system means any facility used to transfer and load coal for shipment.

§ 60.252 Standards for thermal dryers.

(a) On and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified on or before April 28, 2008, subject to the provisions of this subpart must meet the requirements in paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer any gases which contain PM in excess of 0.070 g/dscm (0.031 grains per dry standard cubic feet (gr/dscf)); and

(2) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer any gases which exhibit 20 percent opacity or greater.

(b) Except as provided in paragraph (c) of this section, on and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after April 28, 2008, subject to the provisions of this subpart must meet the applicable standards for PM and opacity, as specified in paragraph (b)(1) of this section. In addition, and except as provided in paragraph (c) of this section, on and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after May 29, 2009, subject to the provisions of this subpart must also meet the applicable standards for sulfur dioxide (SO2 ), and combined nitrogen oxides (NOx ) and carbon monoxide (CO) as specified in paragraphs (b)(2) and (b)(3) of this section.

(1) The owner or operator must meet the requirements for PM emissions in paragraphs (b)(1)(i) through (iii) of this section, as applicable to the affected facility.

(i) For each thermal dryer constructed or reconstructed after April 28, 2008, the owner or operator must meet the requirements of (b)(1)(i)(A) and (b)(1)(i)(B).

(A) The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that contain PM in excess of 0.023 g/dscm (0.010 grains per dry standard cubic feet (gr/dscf)); and

(B) The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that exhibit 10 percent opacity or greater.

(ii) For each thermal dryer modified after April 28, 2008, the owner or operator must meet the requirements of paragraphs (b)(1)(ii)(A) and (b)(1)(ii)(B) of this section.
(A) The owner or operator must not cause to be discharged to the atmosphere from the affected facility any gases which contain PM in excess of 0.070 g/dscm (0.031 gr/dscf); and

(B) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 20 percent opacity or greater.

(2) Except as provided in paragraph (b)(2)(iii) of this section, for each thermal dryer constructed, reconstructed, or modified after May 27, 2009, the owner or operator must meet the requirements for SO2 emissions in either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases that contain SO2 in excess of 85 ng/J (0.20 lb/MMBtu) heat input; or

(ii) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases that either contain SO2 in excess of 520 ng/J (1.20 lb/MMBtu) heat input or contain SO2 in excess of 10 percent of the potential combustion concentration (i.e., the facility must achieve at least a 90 percent reduction of the potential combustion concentration and may not exceed a maximum emissions rate of 1.2 lb/MMBtu (520 ng/J)).

(iii) Thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to an SO2 limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input are not subject to the SO2 limits of this section.

(3) Except as provided in paragraph (b)(3)(iii) of this section, the owner or operator must meet the requirements for combined NOx and CO emissions in paragraph (b)(3)(i) or (b)(3)(ii) of this section, as applicable to the affected facility.

(i) For each thermal dryer constructed after May 27, 2009, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which contain a combined concentration of NOx and CO in excess of 280 ng/J (0.65 lb/MMBtu) heat input.

(ii) For each thermal dryer reconstructed or modified after May 27, 2009, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which contain combined concentration of NOx and CO in excess of 430 ng/J (1.0 lb/MMBtu) heat input.

(iii) Thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to a NOx limit and/or CO limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input, are not subject to the combined NOx and CO limits of this section.

(c) Thermal dryers receiving all of their thermal input from an affected facility covered under another 40 CFR Part 60 subpart must meet the applicable requirements in that subpart but are not subject to the requirements in this subpart.

§ 60.253 Standards for pneumatic coal-cleaning equipment.

(a) On and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator of pneumatic coal-cleaning equipment constructed, reconstructed, or modified on or before April 28, 2008, must meet the requirements of paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that contain PM in excess of 0.040 g/dscm (0.017 gr/dscf); and

(2) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that exhibit 10 percent opacity or greater.
(b) On and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator of pneumatic coal-cleaning equipment constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs (b)(1) and (b)(2) of this section.

(1) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that contain PM in excess of 0.023 g/dscm (0.010 gr/dscf); and

(2) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that exhibit greater than 5 percent opacity.

§ 60.254 Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles.

(a) On and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test is conducted or required to be completed under § 60.8, whichever date comes first, an owner or operator of any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs (b)(1) through (3) of this section, as applicable to the affected facility.

(1) Except as provided in paragraph (b)(3) of this section, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 10 percent opacity or greater.

(2) The owner or operator must not cause to be discharged into the atmosphere from any mechanical vent on an affected facility gases which contain particulate matter in excess of 0.023 g/dscm (0.010 gr/dscf).

(3) Equipment used in the loading, unloading, and conveying operations of open storage piles are not subject to the opacity limitations of paragraph (b)(1) of this section.

(c) The owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility, constructed, reconstructed, or modified after May 27, 2009, must prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions as specified in paragraphs (c)(1) through (6) of this section.

(1) The fugitive coal dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile.

(2) For open coal storage piles, the fugitive coal dust emissions control plan must require that one or more of the following control measures be used to minimize to the greatest extent practicable fugitive coal dust: Locating the source inside a partial enclosure, installing and operating a water spray or fogging system, applying appropriate chemical dust suppression agents on the source (when the provisions of paragraph (c)(6) of this section are met), use of a wind barrier, compaction, or use of a vegetative cover. The owner or operator must select, for inclusion in the fugitive coal dust emissions control plan, the control measure or measures listed in this paragraph that are most appropriate for site conditions. The plan must also explain how the measure or measures selected are applicable and appropriate for site conditions. In addition, the plan must be revised as needed to reflect any changing conditions at the source.

(3) Any owner or operator of an affected facility that is required to have a fugitive coal dust emissions control plan may petition the Administrator to approve, for inclusion in the plan for the affected facility, alternative control measures other than those specified in paragraph (c)(2) of this section as specified in paragraphs (c)(3)(i) through (iv) of this section.
(i) The petition must include a description of the alternative control measures, a copy of the fugitive coal dust emissions control plan for the affected facility that includes the alternative control measures, and information sufficient for EPA to evaluate the demonstrations required by paragraph (c)(3)(ii) of this section.

(ii) The owner or operator must either demonstrate that the fugitive coal dust emissions control plan that includes the alternative control measures will provide equivalent overall environmental protection or demonstrate that it is either economically or technically infeasible for the affected facility to use the control measures specifically identified in paragraph (c)(2).

(iii) While the petition is pending, the owner or operator must comply with the fugitive coal dust emissions control plan including the alternative control measures submitted with the petition. Operation in accordance with the plan submitted with the petition shall be deemed to constitute compliance with the requirement to operate in accordance with a fugitive coal dust emissions control plan that contains one of the control measures specifically identified in paragraph (c)(2) of this section while the petition is pending.

(iv) If the petition is approved by the Administrator, the alternative control measures will be approved for inclusion in the fugitive coal dust emissions control plan for the affected facility. In lieu of amending this subpart, a letter will be sent to the facility describing the specific control measures approved. The facility shall make any such letters and the applicable fugitive coal dust emissions control plan available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(4) The owner or operator must submit the fugitive coal dust emissions control plan to the Administrator or delegated authority as specified in paragraphs (c)(4)(i) and (c)(4)(ii) of this section.

(i) The plan must be submitted to the Administrator or delegated authority prior to startup of the new, reconstructed, or modified affected facility, or 30 days after the effective date of this rule, whichever is later.

(ii) The plan must be revised as needed to reflect any changing conditions at the source. Such revisions must be dated and submitted to the Administrator or delegated authority before a source can operate pursuant to these revisions. The Administrator or delegated authority may also object to such revisions as specified in paragraph (c)(5) of this section.

(5) The Administrator or delegated authority may object to the fugitive coal dust emissions control plan as specified in paragraphs (c)(5)(i) and (c)(5)(ii) of this section.

(i) The Administrator or delegated authority may object to any fugitive coal dust emissions control plan that it has determined does not meet the requirements of paragraphs (c)(1) and (c)(2) of this section.

(ii) If an objection is raised, the owner or operator, within 30 days from receipt of the objection, must submit a revised fugitive coal dust emissions control plan to the Administrator or delegated authority. The owner or operator must operate in accordance with the revised fugitive coal dust emissions control plan. The Administrator or delegated authority retain the right, under paragraph (c)(5) of this section, to object to the revised control plan if it determines the plan does not meet the requirements of paragraphs (c)(1) and (c)(2) of this section.

(6) Where appropriate chemical dust suppression agents are selected by the owner or operator as a control measure to minimize fugitive coal dust emissions, (1) only chemical dust suppressants with Occupational Safety and Health Administration (OSHA)-compliant material safety data sheets (MSDS) are to be allowed; (2) the MSDS must be included in the fugitive coal dust emissions control plan; and (3) the owner or operator must consider and document in the fugitive coal dust emissions control plan the site-specific impacts associated with the use of such chemical dust suppressants.

§ 60.255 Performance tests and other compliance requirements.

(a) An owner or operator of each affected facility that commenced construction, reconstruction, or modification on or before April 28, 2008, must conduct all performance tests required by § 60.8 to demonstrate compliance with the applicable emission standards using the methods identified in § 60.257.
(b) An owner or operator of each affected facility that commenced construction, reconstruction, or modification after
April 28, 2008, must conduct performance tests according to the requirements of § 60.8 and the methods identified in
§ 60.257 to demonstrate compliance with the applicable emissions standards in this subpart as specified in
paragraphs (b)(1) and (2) of this section.

(1) For each affected facility subject to a PM, SO2, or combined NOx and CO emissions standard, an initial
performance test must be performed. Thereafter, a new performance test must be conducted according the
requirements in paragraphs (b)(1)(i) through (iii) of this section, as applicable.

(i) If the results of the most recent performance test demonstrate that emissions from the affected facility are greater
than 50 percent of the applicable emissions standard, a new performance test must be conducted within 12 calendar
months of the date that the previous performance test was required to be completed.

(ii) If the results of the most recent performance test demonstrate that emissions from the affected facility are 50
percent or less of the applicable emissions standard, a new performance test must be conducted within 24 calendar
months of the date that the previous performance test was required to be completed.

(iii) An owner or operator of an affected facility that has not operated for the 60 calendar days prior to the due date of
a performance test is not required to perform the subsequent performance test until 30 calendar days after the next
operating day.

(2) For each affected facility subject to an opacity standard, an initial performance test must be performed.
Thereafter, a new performance test must be conducted according to the requirements in paragraphs (b)(2)(i) through
(iii) of this section, as applicable, except as provided for in paragraphs (e) and (f) of this section. Performance test
and other compliance requirements for coal truck dump operations are specified in paragraph (h) of this section.

(i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity
limit, a new performance test must be conducted within 90 operating days of the date that the previous performance
test was required to be completed.

(ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the
applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the
previous performance test was required to be completed.

(iii) An owner or operator of an affected facility continuously monitoring scrubber parameters as specified in
§ 60.256(b)(2) is exempt from the requirements in paragraphs (b)(2)(i) and (ii) if opacity performance tests are
conducted concurrently with (or within a 60-minute period of) PM performance tests.

(c) If any affected coal processing and conveying equipment (e.g., breakers, crushers, screens, conveying systems),
coal storage systems, or coal transfer and loading systems that commenced construction, reconstruction, or
modification after April 28, 2008, are enclosed in a building, and emissions from the building do not exceed any of the
standards in § 60.254 that apply to the affected facility, then the facility shall be deemed to be in compliance with
such standards.

(d) An owner or operator of an affected facility (other than a thermal dryer) that commenced construction,
reconstruction, or modification after April 28, 2008, is subject to a PM emission standard and uses a control device
with a design controlled potential PM emissions rate of 1.0 Mg (1.1 tons) per year or less is exempted from the
requirements of paragraphs (b)(1)(i) and (ii) of this section provided that the owner or operator meets all of the
conditions specified in paragraphs (d)(1) through (3) of this section. This exemption does not apply to thermal dryers.

(1) PM emissions, as determined by the most recent performance test, are less than or equal to the applicable limit,

(2) The control device manufacturer's recommended maintenance procedures are followed, and

(3) All 6-minute average opacity readings from the most recent performance test are equal to or less than half the
applicable opacity limit or the monitoring requirements in paragraphs (e) or (f) of this section are followed.
(e) For an owner or operator of a group of up to five of the same type of affected facilities that commenced construction, reconstruction, or modification after April 28, 2008, that are subject to PM emissions standards and use identical control devices, the Administrator or delegated authority may allow the owner or operator to use a single PM performance test for one of the affected control devices to demonstrate that the group of affected facilities is in compliance with the applicable emissions standards provided that the owner or operator meets all of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) PM emissions from the most recent performance test for each individual affected facility are 90 percent or less of the applicable PM standard;

(2) The manufacturer’s recommended maintenance procedures are followed for each control device; and

(3) A performance test is conducted on each affected facility at least once every 5 calendar years.

(f) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, may elect to comply with the requirements in paragraph (f)(1) or (f)(2) of this section.

(1) Monitor visible emissions from each affected facility according to the requirements in paragraphs (f)(1)(i) through (iii) of this section.

(i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in § 2.3 of Method 22 of appendix A-7 of this part. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A-4 of this part, performance test must be conducted within 45 operating days.

(ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(iii) Conduct a performance test using Method 9 of appendix A-4 of this part at least once every 5 calendar years for each affected facility.

(2) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Administrator or delegated authority. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. 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 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. The monitoring plan approved by the Administrator or delegated authority shall be implemented by the owner or operator.

(g) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, subject to a visible emissions standard under this subpart may install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (g)(1) and (2) of this section.

(1) The COMS must meet Performance Specification 1 in 40 CFR part 60, appendix B.

(2) The COMS must comply with the quality assurance requirements in paragraphs (g)(2)(i) through (v) of this section.
(i) The owner or operator must automatically (intrinsic to the opacity monitor) check the zero and upscale (span) calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR part 60, appendix B.

(ii) The owner or operator must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(iii) The owner or operator must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

(iv) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and 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.

(v) The owner or operator must reduce all data from the COMS to 6-minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used.

(h) The owner or operator of each affected coal truck dump operation that commenced construction, reconstruction, or modification after April 28, 2008, must meet the requirements specified in paragraphs (h)(1) through (3) of this section.

(1) Conduct an initial performance test using Method 9 of appendix A-4 of this part according to the requirements in paragraphs (h)(1)(i) and (ii).

(i) Opacity readings shall be taken during the duration of three separate truck dump events. Each truck dump event commences when the truck bed begins to elevate and concludes when the truck bed returns to a horizontal position.

(ii) Compliance with the applicable opacity limit is determined by averaging all 15-second opacity readings made during the duration of three separate truck dump events.

(2) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(3) Conduct a performance test using Method 9 of appendix A-4 of this part at least once every 5 calendar years for each affected facility.

§ 60.256 Continuous monitoring requirements.

(a) The owner or operator of each affected facility constructed, reconstructed, or modified on or before April 28, 2008, must meet the monitoring requirements specified in paragraphs (a)(1) and (2) of this section, as applicable to the affected facility.

(1) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(i) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

(ii) For affected facilities that use wet scrubber emission control equipment:
(A) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(B) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator shall have discretion to grant requests for approval of alternative monitoring locations.

(2) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under § 60.13(b).

(b) The owner or operator of each affected facility constructed, reconstructed, or modified after April 28, 2008, that has one or more mechanical vents must install, calibrate, maintain, and continuously operate the monitoring devices specified in paragraphs (b)(1) through (3) of this section, as applicable to the mechanical vent and any control device installed on the vent.

(1) For mechanical vents with fabric filters (baghouses) with design controlled potential PM emissions rates of 25 Mg (28 tons) per year or more, a bag leak detection system according to the requirements in paragraph (c) of this section.

(2) For mechanical vents with wet scrubbers, monitoring devices according to the requirements in paragraphs (b)(2)(i) through (iv) of this section.

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply flow rate to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply flow rate.

(iii) A monitoring device for the continuous measurement of the pH of the wet scrubber liquid. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design pH.

(iv) An average value for each monitoring parameter must be determined during each performance test. Each monitoring parameter must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

(3) For mechanical vents with control equipment other than wet scrubbers, a monitoring device for the continuous measurement of the reagent injection flow rate to the control equipment, as applicable. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design injection flow rate. An average reagent injection flow rate value must be determined during each performance test. The reagent injection flow rate must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

(c) Each bag leak detection system used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (c)(1) through (3) of this section.

(1) The bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (mg/dscm) (0.00044 grains per actual cubic foot (gr/acf)) or less.
(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator must not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(2)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator must develop and submit to the Administrator or delegated authority for approval a site-specific monitoring plan for each bag leak detection system. This plan must be submitted to the Administrator or delegated authority 30 days prior to startup of the affected facility. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow the owner and operator more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

§ 60.257 Test methods and procedures.

(a) The owner or operator must determine compliance with the applicable opacity standards as specified in paragraphs (a)(1) through (3) of this section.

(1) Method 9 of appendix A-4 of this part and the procedures in § 60.11 must be used to determine opacity, with the exceptions specified in paragraphs (a)(1)(i) and (ii).

(i) The duration of the Method 9 of appendix A-4 of this part performance test shall be 1 hour (ten 6-minute averages).

(ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A-4 of this part performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

(2) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs (a)(2)(i) through (iii) must be used.

(i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back.

(ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction.

(iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

(3) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs (a)(3)(i) through (iii) of this section are met.

(i) No more than three emissions points may be read concurrently.

(ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point.

(b) The owner or operator must conduct all performance tests required by § 60.8 to demonstrate compliance with the applicable emissions standards specified in § 60.252 according to the requirements in § 60.8 using the applicable test methods and procedures in paragraphs (b)(1) through (8) of this section.
(1) Method 1 or 1A of appendix A-4 of this part shall be used to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.

(2) Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A-4 of this part shall be used to determine the volumetric flow rate of the stack gas.

(3) Method 3, 3A, or 3B of appendix A-4 of this part shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10-1981, “Flue and Exhaust Gas Analyses” (incorporated by reference—see § 60.17) as an alternative to Method 3B of appendix A-2 of this part.

(4) Method 4 of appendix A-4 of this part shall be used to determine the moisture content of the stack gas.

(5) Method 5, 5B or 5D of appendix A-4 of this part or Method 17 of appendix A-7 of this part shall be used to determine the PM concentration as follows:

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin. A minimum of three valid test runs are needed to comprise a PM performance test.

(ii) Method 5 of appendix A of this part shall be used only to test emissions from affected facilities without wet flue gas desulfurization (FGD) systems.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(iv) Method 5D of appendix A-4 of this part shall be used for positive pressure fabric filters and other similar applications (e.g., stub stacks and roof vents).

(v) Method 17 of appendix A-6 of this part may be used at 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-3 of this part may be used in Method 17 of appendix A-6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A-6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(6) Method 6, 6A, or 6C of appendix A-4 of this part shall be used to determine the SO₂ concentration. A minimum of three valid test runs are needed to comprise an SO₂ performance test.

(7) Method 7 or 7E of appendix A-4 of this part shall be used to determine the NOₓ concentration. A minimum of three valid test runs are needed to comprise an NOₓ performance test.

(8) Method 10 of appendix A-4 of this part shall be used to determine the CO concentration. A minimum of three valid test runs are needed to comprise a CO performance test. CO performance tests are conducted concurrently (or within a 60-minute period) with NOₓ performance tests.

§ 60.258 Reporting and recordkeeping.

(a) The owner or operator of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:

(1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.
(2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources
with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall
be noted.

(3) The amount and type of coal processed each calendar month.

(4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

(5) Monthly certification that the dust suppressant systems were operational when any coal was processed and that
manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's
recommendations, if any, shall be noted.

(6) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any
variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and
any letters from the Administrator providing approval of any alternative control measures shall be maintained with the
logbook. Any actions, e.g. objections, to the plan and any actions relative to the alternative control measures, e.g.
approvals, shall be noted in the logbook as well.

(7) For each bag leak detection system, the owner or operator must keep the records specified in paragraphs (a)(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 settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the
alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the
alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(8) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the
plan was implemented as described. Any variance from plan, if any, shall be noted.

(9) During a performance test of a wet scrubber, and each operating day thereafter, the owner or operator shall
record the measurements of the scrubber pressure loss, water supply flow rate, and pH of the wet scrubber liquid.

(10) During a performance test of control equipment other than a wet scrubber, and each operating day thereafter,
the owner or operator shall record the measurements of the reagent injection flow rate, as applicable.

(b) For the purpose of reports required under section 60.7(c), any owner operator subject to the provisions of this
subpart also shall report semiannually periods of excess emissions as follow:

(1) The owner or operator of an affected facility with a wet scrubber shall submit semiannual reports to the
Administrator or delegated authority of occurrences when the measurements of the scrubber pressure loss, water
supply flow rate, or pH of the wet scrubber liquid vary by more than 10 percent from the average determined during
the most recent performance test.

(2) The owner or operator of an affected facility with control equipment other than a wet scrubber shall submit
semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the reagent
injection flow rate, as applicable, vary by more than 10 percent from the average determined during the most recent
performance test.

(3) All 6-minute average opacities that exceed the applicable standard.

(c) The owner or operator of an affected facility shall submit the results of initial performance tests to the
Administrator or delegated authority, consistent with the provisions of section 60.8. The owner or operator who elects
to comply with the reduced performance testing provisions of sections 60.255(c) or (d) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. The owner or operator electing to comply with section 60.255(d) shall also include information which demonstrates that the control devices are identical.

(d) After July 1, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main. For performance tests that cannot be entered into WebFIRE (i.e., Method 9 of appendix A-4 of this part opacity performance tests) the owner or operator of the affected facility must mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243-01; RTP, NC 27711.
Introduction

§60.4300 What is the purpose of this subpart?

This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005.

Applicability

§60.4305 Does this subpart apply to my stationary combustion turbine?

(a) If you are the owner or operator of a stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005, your turbine is subject to this subpart. Only heat input to the combustion turbine should be included when determining whether or not this subpart is applicable to your turbine. Any additional heat input to associated heat recovery steam generators (HRSG) or duct burners should not be included when determining your peak heat input. However, this subpart does apply to emissions from any associated HRSG and duct burners.

(b) Stationary combustion turbines regulated under this subpart are exempt from the requirements of subpart GG of this part. Heat recovery steam generators and duct burners regulated under this subpart are exempted from the requirements of subparts Da, Db, and Dc of this part.

§60.4310 What types of operations are exempt from these standards of performance?

(a) Emergency combustion turbines, as defined in §60.4420(i), are exempt from the nitrogen oxides (NO\textsubscript{x}) emission limits in §60.4320.

(b) Stationary combustion turbines engaged by manufacturers in research and development of equipment for both combustion turbine emission control techniques and combustion turbine efficiency improvements are exempt from the NO\textsubscript{x} emission limits in §60.4320 on a case-by-case basis as determined by the Administrator.

(c) Stationary combustion turbines at integrated gasification combined cycle electric utility steam generating units that are subject to subpart Da of this part are exempt from this subpart.

(d) Combustion turbine test cells/stands are exempt from this subpart.
Emission Limits

§60.4315 What pollutants are regulated by this subpart?

The pollutants regulated by this subpart are nitrogen oxide (NOX) and sulfur dioxide (SO2).

§60.4320 What emission limits must I meet for nitrogen oxides (NOX)?

(a) You must meet the emission limits for NOX specified in Table 1 to this subpart.

(b) If you have two or more turbines that are connected to a single generator, each turbine must meet the emission limits for NOX.

§60.4325 What emission limits must I meet for NOX if my turbine burns both natural gas and distillate oil (or some other combination of fuels)?

You must meet the emission limits specified in Table 1 to this subpart. If your total heat input is greater than or equal to 50 percent natural gas, you must meet the corresponding limit for a natural gas-fired turbine when you are burning that fuel. Similarly, when your total heat input is greater than 50 percent distillate oil and fuels other than natural gas, you must meet the corresponding limit for distillate oil and fuels other than natural gas for the duration of the time that you burn that particular fuel.

§60.4330 What emission limits must I meet for sulfur dioxide (SO2)?

(a) If your turbine is located in a continental area, you must comply with either paragraph (a)(1), (a)(2), or (a)(3) of this section. If your turbine is located in Alaska, you do not have to comply with the requirements in paragraph (a) of this section until January 1, 2008.

(1) You must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO2 in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output;

(2) You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO2/J (0.060 lb SO2/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement; or

(3) For each stationary combustion turbine burning at least 50 percent biogas on a calendar month basis, as determined based on total heat input, you must not cause to be discharged into the atmosphere from the affected source any gases that contain SO2 in excess of 65 ng SO2/J (0.15 lb SO2/MMBtu) heat input.

(b) If your turbine is located in a noncontinental area or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit, you must comply with one or the other of the following conditions:

(1) You must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO2 in excess of 780 ng/J (6.2 lb/MWh) gross output, or

(2) You must not burn in the subject stationary combustion turbine any fuel which contains total sulfur with potential sulfur emissions in excess of 180 ng SO2/J (0.42 lb SO2/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.

[71 FR 38497, July 6, 2006, as amended at 74 FR 11861, Mar. 20, 2009]
General Compliance Requirements

§60.4333 What are my general requirements for complying with this subpart?

(a) You must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

(b) When an affected unit with heat recovery utilizes a common steam header with one or more combustion turbines, the owner or operator shall either:

(1) Determine compliance with the applicable NOX emissions limits by measuring the emissions combined with the emissions from the other unit(s) utilizing the common heat recovery unit; or

(2) Develop, demonstrate, and provide information satisfactory to the Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines. The Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part.

Monitoring

§60.4335 How do I demonstrate compliance for NOX if I use water or steam injection?

(a) If you are using water or steam injection to control NOX emissions, you must install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine when burning a fuel that requires water or steam injection for compliance.

(b) Alternatively, you may use continuous emission monitoring, as follows:

(1) Install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NOX monitor and a diluent gas (oxygen (O_2) or carbon dioxide (CO_2)) monitor, to determine the hourly NOX emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and

(2) For units complying with the output-based standard, install, calibrate, maintain, and operate a fuel flow meter (or flow meters) to continuously measure the heat input to the affected unit; and

(3) For units complying with the output-based standard, install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of the unit in megawatt-hours; and

(4) For combined heat and power units complying with the output-based standard, install, calibrate, maintain, and operate meters for useful recovered energy flow rate, temperature, and pressure, to continuously measure the total thermal energy output in British thermal units per hour (Btu/h).

§60.4340 How do I demonstrate continuous compliance for NOX if I do not use water or steam injection?

(a) If you are not using water or steam injection to control NOX emissions, you must perform annual performance tests in accordance with §60.4400 to demonstrate continuous compliance. If the NOX emission result from the performance test is less than or equal to 75 percent of the NOX emission limit for the turbine, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NOX emission limit for the turbine, you must resume annual performance tests.

(b) As an alternative, you may install, calibrate, maintain and operate one of the following continuous monitoring systems:
(1) Continuous emission monitoring as described in §§60.4335(b) and 60.4345, or

(2) Continuous parameter monitoring as follows:

(i) For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, you must define parameters indicative of the unit's NOx formation characteristics, and you must monitor these parameters continuously.

(ii) For any lean premix stationary combustion turbine, you must continuously monitor the appropriate parameters to determine whether the unit is operating in low-NOx mode.

(iii) For any turbine that uses SCR to reduce NOx emissions, you must continuously monitor appropriate parameters to verify the proper operation of the emission controls.

(iv) For affected units that are also regulated under part 75 of this chapter, with state approval you can monitor the NOx emission rate using the methodology in appendix E to part 75 of this chapter, or the low mass emissions methodology in §75.19, the requirements of this paragraph (b) may be met by performing the parametric monitoring described in section 2.3 of part 75 appendix E or in §75.19(c)(1)(iv)(H).

§60.4345 What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

If the option to use a NOx CEMS is chosen:

(a) Each NOx diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in appendix B to this part, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in appendix F to this part is not required. Alternatively, a NOx diluent CEMS that is installed and certified according to appendix A of part 75 of this chapter is acceptable for use under this subpart. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis.

(b) As specified in §60.13(e)(2), during each full unit operating hour, both the NOx monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NOx emission rate for the hour.

(c) Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Alternatively, with state approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to part 75 of this chapter are acceptable for use under this subpart.

(d) Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer's instructions.

(e) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in paragraphs (a), (c), and (d) of this section. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 75 of this chapter.

§60.4350 How do I use data from the continuous emission monitoring equipment to identify excess emissions?

For purposes of identifying excess emissions:

(a) All CEMS data must be reduced to hourly averages as specified in §60.13(h).
(b) For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NOX and diluent monitors, the data acquisition and handling system must calculate and record the hourly NOX emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in appendix A of this part. For any hour in which the hourly average O2 concentration exceeds 19.0 percent O2 (or the hourly average CO2 concentration is less than 1.0 percent CO2), a diluent cap value of 19.0 percent O2 or 1.0 percent CO2 (as applicable) may be used in the emission calculations.

(c) Correction of measured NOX concentrations to 15 percent O2 is not allowed.

(d) If you have installed and certified a NOX diluent CEMS to meet the requirements of part 75 of this chapter, states can approve that only quality assured data from the CEMS shall be used to identify excess emissions under this subpart. Periods where the missing data substitution procedures in subpart D of part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c).

(e) All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages.

(f) Calculate the hourly average NOX emission rates, in units of the emission standards under §60.4320, using either ppm for units complying with the concentration limit or the following equation for units complying with the output based standard:

1 For simple-cycle operation:

\[ E = \frac{(NOX)_h}{P} \times (HI)_h \quad \text{(Eq. 1)} \]

Where:

- \( E \) = hourly NOX emission rate, in lb/MWh,
- \((NOX)_h\) = hourly NOX emission rate, in lb/MMBtu,
- \((HI)_h\) = hourly heat input rate to the unit, in MMBtu/h, measured using the fuel flowmeter(s), e.g., calculated using Equation D-15a in appendix D to part 75 of this chapter, and
- \( P \) = gross energy output of the combustion turbine in MW.

2 For combined-cycle and combined heat and power complying with the output-based standard, use Equation 1 of this subpart, except that the gross energy output is calculated as the sum of the total electrical and mechanical energy generated by the combustion turbine, the additional electrical or mechanical energy (if any) generated by the steam turbine following the heat recovery steam generator, and 100 percent of the total useful thermal energy output that is not used to generate additional electricity or mechanical output, expressed in equivalent MW, as in the following equations:

\[ P = (Pe)_t + (Pe)_c + Ps + Po \quad \text{(Eq. 2)} \]

Where:

- \( P \) = gross energy output of the stationary combustion turbine system in MW,
- \((Pe)_t\) = electrical or mechanical energy output of the combustion turbine in MW,
- \((Pe)_c\) = electrical or mechanical energy output (if any) of the steam turbine in MW, and
\[ Ps = \frac{Q \times H}{3.413 \times 10^4 \text{ Btu/MW h}} \]  \hbox{(Eq. 3)}

Where:

\( Ps \) = useful thermal energy of the steam, measured relative to ISO conditions, not used to generate additional electric or mechanical output, in MW,

\( Q \) = measured steam flow rate in lb/h,

\( H \) = enthalpy of the steam at measured temperature and pressure relative to ISO conditions, in Btu/lb, and \( 3.413 \times 10^6 \) = conversion from Btu/h to MW.

\( Po \) = other useful heat recovery, measured relative to ISO conditions, not used for steam generation or performance enhancement of the combustion turbine.

(3) For mechanical drive applications complying with the output-based standard, use the following equation:

\[ E = \frac{(\text{NO}_x)_m}{BL \times AL} \]  \hbox{(Eq. 4)}

Where:

\( E \) = NO\(_X\) emission rate in lb/MWh,

\( (\text{NO}_x)_m \) = NO\(_X\) emission rate in lb/h,

\( BL \) = manufacturer's base load rating of turbine, in MW, and

\( AL \) = actual load as a percentage of the base load.

(g) For simple cycle units without heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 4-hour rolling average basis, as described in §60.4380(b)(1).

(h) For combined cycle and combined heat and power units with heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 30 unit operating day rolling average basis, as described in §60.4380(b)(1).

§60.4355 How do I establish and document a proper parameter monitoring plan?

(a) The steam or water to fuel ratio or other parameters that are continuously monitored as described in §§60.4335 and 60.4340 must be monitored during the performance test required under §60.8, to establish acceptable values and ranges. You may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. You must develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO\(_X\) emission controls. The plan must:

(1) Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NO\(_X\) emission controls,

(2) Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established,
(3) Explain the process you will use to make certain that you obtain data that are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable),

(4) Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data,

(5) Describe the frequency of monitoring and the data collection procedures which you will use (e.g., you are using a computerized data acquisition over a number of discrete data points with the average (or maximum value) being used for purposes of determining whether an exceedance has occurred), and

(6) Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, you must explain the reasons for the differences. You must submit the data supporting the justification, but you may refer to generally available sources of information used to support the justification. You may rely on engineering assessments and other data, provided you demonstrate factors which assure compliance or explain why performance testing is unnecessary to establish indicator ranges. When establishing indicator ranges, you may choose to simplify the process by treating the parameters as if they were correlated. Using this assumption, testing can be divided into two cases:

(i) All indicators are significant only on one end of range (e.g., for a thermal incinerator controlling volatile organic compounds (VOC) it is only important to insure a minimum temperature, not a maximum). In this case, you may conduct your study so that each parameter is at the significant limit of its range while you conduct your emissions testing. If the emissions tests show that the source is in compliance at the significant limit of each parameter, then as long as each parameter is within its limit, you are presumed to be in compliance.

(ii) Some or all indicators are significant on both ends of the range. In this case, you may conduct your study so that each parameter that is significant at both ends of its range assumes its extreme values in all possible combinations of the extreme values (either single or double) of all of the other parameters. For example, if there were only two parameters, A and B, and A had a range of values while B had only a minimum value, the combinations would be A high with B minimum and A low with B minimum. If both A and B had a range, the combinations would be A high and B high, A low and B low, A high and B low, A low and B high. For the case of four parameters all having a range, there are 16 possible combinations.

(b) For affected units that are also subject to part 75 of this chapter and that have state approval to use the low mass emissions methodology in §75.19 or the NOX emission measurement methodology in appendix E to part 75, you may meet the requirements of this paragraph by developing and keeping on-site (or at a central location for unmanned facilities) a QA plan, as described in §75.19(e)(5) or in section 2.3 of appendix E to part 75 of this chapter and section 1.3.6 of appendix B to part 75 of this chapter.

§60.4360 How do I determine the total sulfur content of the turbine’s combustion fuel?

You must monitor the total sulfur content of the fuel being fired in the turbine, except as provided in §60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in §60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17), which measure the major sulfur compounds, may be used.

§60.4365 How can I be exempted from monitoring the total sulfur content of the fuel?

You may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO₂/J (0.080 lb SO₂/MMBtu) heat input for units located in continental areas and 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. You must use one of the following sources of information to make the required demonstration:

(a) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less and 0.4 weight percent (4,000 ppmw) or less for noncontinental areas, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet and 140 grains of sulfur
or less per 100 standard cubic feet for noncontinental areas, has potential sulfur emissions of less than less than 26 ng SO$_2$/J (0.060 lb SO$_2$/MMBtu) heat input for continental areas and has potential sulfur emissions of less than less than 180 ng SO$_2$/J (0.42 lb SO$_2$/MMBtu) heat input for noncontinental areas; or

(b) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO$_2$/J (0.060 lb SO$_2$/MMBtu) heat input for continental areas or 180 ng SO$_2$/J (0.42 lb SO$_2$/MMBtu) heat input for noncontinental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

§60.4370 How often must I determine the sulfur content of the fuel?

The frequency of determining the sulfur content of the fuel must be as follows:

(a) Fuel oil. For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to part 75 of this chapter (i.e., flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank).

(b) Gaseous fuel. If you elect not to demonstrate sulfur content using options in §60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day.

(c) Custom schedules. Notwithstanding the requirements of paragraph (b) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (c)(1) and (c)(2) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in §60.4330.

(1) The two custom sulfur monitoring schedules set forth in paragraphs (c)(1)(i) through (iv) and in paragraph (c)(2) of this section are acceptable, without prior Administrative approval:

(i) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (c)(1)(ii), (iii), or (iv) of this section, as applicable.

(ii) If none of the 30 daily measurements of the fuel's total sulfur content exceeds half the applicable standard, subsequent sulfur content monitoring may be performed at 12-month intervals. If any of the samples taken at 12-month intervals has a total sulfur content greater than half but less than the applicable limit, follow the procedures in paragraph (c)(1)(iii) of this section. If any measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section.

(iii) If at least one of the 30 daily measurements of the fuel's total sulfur content is greater than half but less than the applicable limit, but none exceeds the applicable limit, then:

(A) Collect and analyze a sample every 30 days for 3 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in paragraph (c)(1)(iii)(B) of this section.

(B) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in paragraph (c)(1)(iii)(C) of this section.

(C) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, continue to monitor at this frequency.
(iv) If a sulfur content measurement exceeds the applicable limit, immediately begin daily monitoring according to paragraph (c)(1)(i) of this section. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than the applicable limit, are obtained. At that point, the applicable procedures of paragraph (c)(1)(ii) or (iii) of this section shall be followed.

(2) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to part 75 of this chapter to determine a custom sulfur sampling schedule, as follows:

(i) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf, no additional monitoring of the sulfur content of the gas is required, for the purposes of this subpart.

(ii) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds half the applicable limit, then the minimum required sampling frequency shall be one sample at 12 month intervals.

(iii) If any sample result exceeds half the applicable limit, but none exceeds the applicable limit, follow the provisions of paragraph (c)(1)(iii) of this section.

(iv) If the sulfur content of any of the 720 hourly samples exceeds the applicable limit, follow the provisions of paragraph (c)(1)(iv) of this section.

Reporting

§60.4375 What reports must I submit?

(a) For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, you must submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.

(b) For each affected unit that performs annual performance tests in accordance with §60.4340(a), you must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.

§60.4380 How are excess emissions and monitor downtime defined for NOX?

For the purpose of reports required under §60.7(c), periods of excess emissions and monitor downtime that must be reported are defined as follows:

(a) For turbines using water or steam to fuel ratio monitoring:

(1) An excess emission is any unit operating hour for which the 4-hour rolling average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with §60.4320, as established during the performance test required in §60.8. Any unit operating hour in which no water or steam is injected into the turbine when a fuel is being burned that requires water or steam injection for NOx control will also be considered an excess emission.

(2) A period of monitor downtime is any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.

(3) Each report must include the average steam or water to fuel ratio, average fuel consumption, and the combustion turbine load during each excess emission.

(b) For turbines using continuous emission monitoring, as described in §§60.4335(b) and 60.4345:
An excess emission is any unit operating period in which the 4-hour or 30-day rolling average NOx emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this subpart, a “4-hour rolling average NOx emission rate” is the arithmetic average of the average NOx emission rate in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NOx emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NOx emission rate is obtained for at least 3 of the 4 hours. For the purposes of this subpart, a “30-day rolling average NOx emission rate” is the arithmetic average of all hourly NOx emission data in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NOx emissions rates for the preceding 30 unit operating days if a valid NOx emission rate is obtained for at least 75 percent of all operating hours.

A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NOx concentration, CO2 or O2 concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.

For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

For turbines required to monitor combustion parameters or parameters that document proper operation of the NOx emission controls:

An excess emission is a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.

A period of monitor downtime is a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

§60.4385 How are excess emissions and monitoring downtime defined for SO2?

If you choose the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined as follows:

(a) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(b) If the option to sample each delivery of fuel oil has been selected, you must immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit’s storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. You must continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and you must evaluate excess emissions according to paragraph (a) of this section. When all of the fuel from the delivery has been burned, you may resume using the as-delivered sampling option.

(c) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

§60.4390 What are my reporting requirements if I operate an emergency combustion turbine or a research and development turbine?

(a) If you operate an emergency combustion turbine, you are exempt from the NOx limit and must submit an initial report to the Administrator stating your case.
(b) Combustion turbines engaged by manufacturers in research and development of equipment for both combustion turbine emission control techniques and combustion turbine efficiency improvements may be exempted from the NOx limit on a case-by-case basis as determined by the Administrator. You must petition for the exemption.

§60.4395 When must I submit my reports?

All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period.

Performance Tests

§60.4400 How do I conduct the initial and subsequent performance tests, regarding NOx?

(a) You must conduct an initial performance test, as required in §60.8. Subsequent NOx performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).

(1) There are two general methodologies that you may use to conduct the performance tests. For each test run:

(i) Measure the NOx concentration (in parts per million (ppm)), using EPA Method 7E or EPA Method 20 in appendix A of this part. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NOx emission rate:

\[
E = \frac{1.194 \times 10^{-7} \times (\text{NOx}_c) \times Q_{std}}{F} \quad (\text{Eq. 5})
\]

Where:

\[
E = \text{NOx emission rate, in lb/MWh}
\]

\[
1.194 \times 10^{-7} = \text{conversion constant, in lb/dscf-ppm}
\]

\[
(\text{NOx}_c) = \text{average NOx concentration for the run, in ppm}
\]

\[
Q_{std} = \text{stack gas volumetric flow rate, in dscf/hr}
\]

\[
P = \text{gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or}
\]

(ii) Measure the NOx and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in appendix A of this part. Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the NOx emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the NOx emission rate in lb/MWh.

(2) Sampling traverse points for NOx and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(3) Notwithstanding paragraph (a)(2) of this section, you may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in appendix A of this part if the following conditions are met:
(i) You may perform a stratification test for NOx and diluent pursuant to

(A) [Reserved], or

(B) The procedures specified in section 6.5.6.1(a) through (e) of appendix A of part 75 of this chapter.

(ii) Once the stratification sampling is completed, you may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NOX concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5ppm or ±0.5 percent CO2 (or O2) from the mean for all traverse points, then you may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NOX concentration during the stratification test; or

(B) For turbines with a NOX standard greater than 15 ppm @ 15% O2, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NOX concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3ppm or ±0.3 percent CO2 (or O2) from the mean for all traverse points; or

(C) For turbines with a NOx standard less than or equal to 15 ppm @ 15% O2, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NOX concentrations is within ±2.5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±1ppm or ±0.15 percent CO2 (or O2) from the mean for all traverse points.

(b) The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. You may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. You must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

(1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel.

(2) For a combined cycle and CHP turbine systems with supplemental heat (duct burner), you must measure the total NOx emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.

(3) If water or steam injection is used to control NOx with no additional post-combustion NOx control and you choose to monitor the steam or water to fuel ratio in accordance with §60.4335, then that monitoring system must be operated concurrently with each EPA Method 20 or EPA Method 7E run and must be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable §60.4320 NOX emission limit.

(4) Compliance with the applicable emission limit in §60.4320 must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NOx emission rate at each tested level meets the applicable emission limit in §60.4320.

(5) If you elect to install a CEMS, the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405) as part of the initial performance test of the affected unit.

(6) The ambient temperature must be greater than 0 °F during the performance test.
§60.4405 How do I perform the initial performance test if I have chosen to install a NOX-diluent CEMS?

If you elect to install and certify a NOX-diluent CEMS under §60.4345, then the initial performance test required under §60.8 may be performed in the following alternative manner:

(a) Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent of peak load. The ambient temperature must be greater than 0 °F during the RATA runs.

(b) For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit.

(c) Use the test data both to demonstrate compliance with the applicable NOX emission limit under §60.4320 and to provide the required reference method data for the RATA of the CEMS described under §60.4335.

(d) Compliance with the applicable emission limit in §60.4320 is achieved if the arithmetic average of all of the NOX emission rates for the RATA runs, expressed in units of ppm or lb/MWh, does not exceed the emission limit.

§60.4410 How do I establish a valid parameter range if I have chosen to continuously monitor parameters?

If you have chosen to monitor combustion parameters or parameters indicative of proper operation of NOX emission controls in accordance with §60.4340, the appropriate parameters must be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in §60.4355.

§60.4415 How do I conduct the initial and subsequent performance tests for sulfur?

(a) You must conduct an initial performance test, as required in §60.8. Subsequent SO2 performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). There are three methodologies that you may use to conduct the performance tests.

(1) If you choose to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see §60.17) for natural gas or ASTM D4177 (incorporated by reference, see §60.17) for oil. Alternatively, for oil, you may follow the procedures for manual pipeline sampling in section 14 of ASTM D4057 (incorporated by reference, see §60.17). The fuel analyses of this section may be performed either by you, a service contractor retained by you, the fuel vendor, or any other qualified agency. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453 (all of which are incorporated by reference, see §60.17); or

(ii) For gaseous fuels, ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17).

(2) Measure the SO2 concentration (in parts per million (ppm)), using EPA Methods 6, 6C, 8, or 20 in appendix A of this part. In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 19-10-1981-Part 10, “Flue and Exhaust Gas Analyses,” manual methods for sulfur dioxide (incorporated by reference, see §60.17) can be used instead of EPA Methods 6 or 20. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then use the following equation to calculate the SO2 emission rate:

\[
E = \frac{1.664 \times 10^{-7} \times [SO_2] \times Q_{\text{M)}}}{F} \quad \text{(Eq. 6)}
\]

Where:
E = SO₂ emission rate, in lb/MWh

\(1.664 \times 10^{-7}\) = conversion constant, in lb/dscf-ppm

\((\text{SO}_2)_c\) = average SO₂ concentration for the run, in ppm

\(Q_{\text{std}}\) = stack gas volumetric flow rate, in dscf/hr

\(P\) = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or

(3) Measure the SO₂ and diluent gas concentrations, using either EPA Methods 6, 6C, or 8 and 3A, or 20 in appendix A of this part. In addition, you may use the manual methods for sulfur dioxide ASME PTC 19-10-1981-Part 10 (incorporated by reference, see §60.17). Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the SO₂ emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the SO₂ emission rate in lb/MWh.

(b) [Reserved]

Definitions

§60.4420 What definitions apply to this subpart?

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

*Biogas* means gas produced by the anaerobic digestion or fermentation of organic matter including manure, sewage sludge, municipal solid waste, biodegradable waste, or any other biodegradable feedstock, under anaerobic conditions. Biogas is comprised primarily of methane and CO₂.

*Combined cycle combustion turbine* means any stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to generate steam that is only used to create additional power output in a steam turbine.

*Combined heat and power combustion turbine* means any stationary combustion turbine which recovers heat from the exhaust gases to heat water or another medium, generate steam for useful purposes other than additional electric generation, or directly uses the heat in the exhaust gases for a useful purpose.

*Combustion turbine model* means a group of combustion turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.

*Combustion turbine test cell/stand* means any apparatus used for testing uninstalled stationary or uninstalled mobile (motive) combustion turbines.

*Diffusion flame stationary combustion turbine* means any stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary combustion turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.
Efficiency means the combustion turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output—based on the higher heating value of the fuel.

Emergency combustion turbine means any stationary combustion turbine which operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment, including power supplied to portions of a facility, when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency combustion turbines.

Excess emissions means a specified averaging period over which either (1) the NOx emissions are higher than the applicable emission limit in §60.4320; (2) the total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in §60.4330; or (3) the recorded value of a particular monitored parameter is outside the acceptable range specified in the parameter monitoring plan for the affected unit.

Gross useful output means the gross useful work performed by the stationary combustion turbine system. For units using the mechanical energy directly or generating only electricity, the gross useful work performed is the gross electrical or mechanical output from the turbine/generator set. For combined heat and power units, the gross useful work performed is the gross electrical or mechanical output plus the useful thermal output (i.e., thermal energy delivered to a process).

Heat recovery steam generating unit means a unit where the hot exhaust gases from the combustion turbine are routed in order to extract heat from the gases and generate steam, for use in a steam turbine or other device that utilizes steam. Heat recovery steam generating units can be used with or without duct burners.

Integrated gasification combined cycle electric utility steam generating unit means a coal-fired electric utility steam generating unit that burns a synthetic gas derived from coal in a combined-cycle gas turbine. No solid coal is directly burned in the unit during operation.

ISO conditions means 288 Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

Lean premix stationary combustion turbine means any stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture before delivery to the combustor. Mixing may occur before or in the combustion chamber. A lean premixed turbine may operate in diffusion flame mode during operating conditions such as startup and shutdown, extreme ambient temperature, or low or transient load.

Natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

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

Peak load means 100 percent of the manufacturer's design capacity of the combustion turbine at ISO conditions.

Regenerative cycle combustion turbine means any stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine.

Simple cycle combustion turbine means any stationary combustion turbine which does not recover heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine, or which does not
recover heat from the combustion turbine exhaust gases for purposes other than enhancing the performance of the combustion turbine itself.

*Stationary combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, any combined cycle combustion turbine, and any combined heat and power combustion turbine based system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. It may, however, be mounted on a vehicle for portability.

*Unit 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 unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Unit operating hour* means a clock hour during which any fuel is combusted in the affected unit. If the unit combusts fuel for the entire clock hour, it is considered to be a full unit operating hour. If the unit combusts fuel for only part of the clock hour, it is considered to be a partial unit operating hour.

*Useful thermal output* means the thermal energy made available for use in any industrial or commercial process, or used in any heating or cooling application, i.e., total thermal energy made available for processes and applications other than electrical or mechanical generation. Thermal output for this subpart means the energy in recovered thermal output measured against the energy in the thermal output at 15 degrees Celsius and 101.325 kilopascals of pressure.

[71 FR 38497, July 6, 2006, as amended at 74 FR 11861, Mar. 20, 2009]

**Table 1 to Subpart KKKK of Part 60—Nitrogen Oxide Emission Limits for New Stationary Combustion Turbines**

<table>
<thead>
<tr>
<th>Combustion turbine type</th>
<th>Combustion turbine heat input at peak load (HHV)</th>
<th>NOx emission standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>New turbine firing natural gas, electric generating</td>
<td>≤ 50 MMBtu/h</td>
<td>42 ppm at 15 percent O₂ or 290 ng/J of useful output (2.3 lb/MWh).</td>
</tr>
<tr>
<td>New turbine firing natural gas, mechanical drive</td>
<td>≤ 50 MMBtu/h</td>
<td>100 ppm at 15 percent O₂ or 690 ng/J of useful output (5.5 lb/MWh).</td>
</tr>
<tr>
<td>New turbine firing natural gas</td>
<td>&gt; 50 MMBtu/h and ≤ 850 MMBtu/h</td>
<td>25 ppm at 15 percent O₂ or 150 ng/J of useful output (1.2 lb/MWh).</td>
</tr>
<tr>
<td>New, modified, or reconstructed turbine firing natural gas</td>
<td>&gt; 850 MMBtu/h</td>
<td>15 ppm at 15 percent O₂ or 54 ng/J of useful output (0.43 lb/MWh).</td>
</tr>
<tr>
<td>New turbine firing fuels other than natural gas, electric generating</td>
<td>≤ 50 MMBtu/h</td>
<td>96 ppm at 15 percent O₂ or 700 ng/J of useful output (5.5 lb/MWh).</td>
</tr>
<tr>
<td>New turbine firing fuels other than natural gas, mechanical drive</td>
<td>≤ 50 MMBtu/h</td>
<td>150 ppm at 15 percent O₂ or 1,100 ng/J of useful output (8.7 lb/MWh).</td>
</tr>
<tr>
<td>Combustion turbine type</td>
<td>Combustion turbine heat input at peak load (HHV)</td>
<td>NO(_x) emission standard</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>New turbine firing fuels other than natural gas</td>
<td>&gt; 50 MMBtu/h and ≤ 850 MMBtu/h</td>
<td>74 ppm at 15 percent (O_2) or 460 ng/J of useful output (3.6 lb/MWh).</td>
</tr>
<tr>
<td>New, modified, or reconstructed turbine firing fuels other than natural gas</td>
<td>&gt; 850 MMBtu/h</td>
<td>42 ppm at 15 percent (O_2) or 250 ng/J of useful output (2.0 lb/MWh).</td>
</tr>
<tr>
<td>Modified or reconstructed turbine</td>
<td>≤ 50 MMBtu/h</td>
<td>150 ppm at 15 percent (O_2) or 1,100 ng/J of useful output (8.7 lb/MWh).</td>
</tr>
<tr>
<td>Modified or reconstructed turbine firing natural gas</td>
<td>&gt; 50 MMBtu/h and ≤ 850 MMBtu/h</td>
<td>42 ppm at 15 percent (O_2) or 250 ng/J of useful output (2.0 lb/MWh).</td>
</tr>
<tr>
<td>Modified or reconstructed turbine firing fuels other than natural gas</td>
<td>&gt; 50 MMBtu/h and ≤ 850 MMBtu/h</td>
<td>96 ppm at 15 percent (O_2) or 590 ng/J of useful output (4.7 lb/MWh).</td>
</tr>
<tr>
<td>Turbines located north of the Arctic Circle (latitude 66.5 degrees north), turbines operating at less than 75 percent of peak load, modified and reconstructed offshore turbines, and turbine operating at temperatures less than 0 °F</td>
<td>≤ 30 MW output</td>
<td>150 ppm at 15 percent (O_2) or 1,100 ng/J of useful output (8.7 lb/MWh).</td>
</tr>
<tr>
<td>Turbines located north of the Arctic Circle (latitude 66.5 degrees north), turbines operating at less than 75 percent of peak load, modified and reconstructed offshore turbines, and turbine operating at temperatures less than 0 °F</td>
<td>&gt; 30 MW output</td>
<td>96 ppm at 15 percent (O_2) or 590 ng/J of useful output (4.7 lb/MWh).</td>
</tr>
<tr>
<td>Heat recovery units operating independent of the combustion turbine</td>
<td>All sizes</td>
<td>54 ppm at 15 percent (O_2) or 110 ng/J of useful output (0.86 lb/MWh).</td>
</tr>
</tbody>
</table>
What This Subpart Covers

§ 63.6080 What is the purpose of subpart YYYY?

Subpart YYYY establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emissions from stationary combustion turbines located at major sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations.

§ 63.6085 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary combustion turbine located at a major source of HAP emissions.

(a) Stationary combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function, although it may be mounted on a vehicle for portability or transportability. Stationary combustion turbines covered by this subpart include simple cycle stationary combustion turbines, regenerative/recuperative cycle stationary combustion turbines, cogeneration cycle stationary combustion turbines, and combined cycle stationary combustion turbines. Stationary combustion turbines subject to this subpart do not include turbines located at a research or laboratory facility, if research is conducted on the turbine itself and the turbine is not being used to power other applications at the research or laboratory facility.

(b) A major source of HAP emissions is a contiguous site under common control 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.

§ 63.6090 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 combustion turbine located at a major source of HAP emissions.
(1) **Existing stationary combustion turbine.** A stationary combustion turbine is existing if you commenced construction or reconstruction of the stationary combustion turbine on or before January 14, 2003. A change in ownership of an existing stationary combustion turbine does not make that stationary combustion turbine a new or reconstructed stationary combustion turbine.

(2) **New stationary combustion turbine.** A stationary combustion turbine is new if you commenced construction of the stationary combustion turbine after January 14, 2003.

(3) **Reconstructed stationary combustion turbine.** A stationary combustion turbine is reconstructed if you meet the definition of reconstruction in §63.2 of subpart A of this part and reconstruction is commenced after January 14, 2003.

(b) **Subcategories with limited requirements.** (1) A new or reconstructed stationary combustion turbine located at a major source which meets either of the following criteria does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6145(d):

(i) The stationary combustion turbine is an emergency stationary combustion turbine; or

(ii) The stationary combustion turbine is located on the North Slope of Alaska.

(2) A stationary combustion turbine which burns landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified municipal solid waste (MSW) is used to generate 10 percent or more of the gross heat input on an annual basis does not have to meet the requirements of this subpart except for:

(i) The initial notification requirements of §63.6145(d); and

(ii) Additional monitoring and reporting requirements as provided in §63.6125(c) and 63.6150.

(3) An existing, new, or reconstructed stationary combustion turbine with a rated peak power output of less than 1.0 megawatt (MW) at International Organization for Standardization (ISO) standard day conditions, which is located at a major source, does not have to meet the requirements of this subpart and of subpart A of this part. This determination applies to the capacities of individual combustion turbines, whether or not an aggregated group of combustion turbines has a common add-on air pollution control device. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification. For example, a 0.75 MW emergency turbine would not have to submit an initial notification.

(4) Existing stationary combustion turbines in all subcategories do not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary for any existing stationary combustion turbine, even if a new or reconstructed turbine in the same category would require an initial notification.

(5) Combustion turbine engine test cells/stands do not have to meet the requirements of this subpart but may have to meet the requirements of subpart A of this part if subject to another subpart. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification.

§ 63.6092   Are duct burners and waste heat recovery units covered by subpart YYYYY?

No, duct burners and waste heat recovery units are considered steam generating units and are not covered under this subpart. In some cases, it may be difficult to separately monitor emissions from the turbine and duct burner, so sources are allowed to meet the required emission limitations with their duct burners in operation.

§ 63.6095   When do I have to comply with this subpart?

(a) **Affected sources.** (1) If you start up a new or reconstructed stationary combustion turbine which is a lean premix oil-fired stationary combustion turbine or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart on or before March 5, 2004, you must comply with the emissions limitations and operating limitations in this subpart no later than March 5, 2004.
(2) If you start up a new or reconstructed stationary combustion turbine which is a lean premix oil-fired stationary combustion turbine or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart after March 5, 2004, you must comply with the emissions limitations and operating limitations in this subpart upon startup of your affected source.

(b) Area sources that become major sources. If your new or reconstructed stationary combustion turbine is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, it must be in compliance with any applicable requirements of this subpart when it becomes a major source.

(c) You must meet the notification requirements in § 63.6145 according to the schedule in § 63.6145 and in 40 CFR part 63, subpart A.

(d) Stay of standards for gas-fired subcategories. If you start up a new or reconstructed stationary combustion turbine that is a lean premix gas-fired stationary combustion turbine or diffusion flame gas-fired stationary combustion turbine as defined by this subpart, you must comply with the Initial Notification requirements set forth in § 63.6145 but need not comply with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the FEDERAL REGISTER.


Emission and Operating Limitations

§ 63.6100 What emission and operating limitations must I meet?

For each new or reconstructed stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine, a lean premix oil-fired stationary combustion turbine, a diffusion flame gas-fired stationary combustion turbine, or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart, you must comply with the emission limitations and operating limitations in Table 1 and Table 2 of this subpart.

General Compliance Requirements

§ 63.6105 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations which apply to you at all times except during startup, shutdown, and malfunctions.

(b) If you must comply with emission and operating limitations, you must operate and maintain your stationary combustion turbine, oxidation catalyst emission control device or other air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

Testing and Initial Compliance Requirements

§ 63.6110 By what date must I conduct the initial performance tests or other initial compliance demonstrations?

(a) You must conduct the initial performance tests or other initial compliance demonstrations in Table 4 of this subpart that apply to you within 180 calendar days after the compliance date that is specified for your stationary combustion turbine in § 63.6095 and according to the provisions in § 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test to determine outlet formaldehyde concentration on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (b)(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.

§ 63.6115 When must I conduct subsequent performance tests?

Subsequent performance tests must be performed on an annual basis as specified in Table 3 of this subpart.

§ 63.6120 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Table 3 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements of the General Provisions at § 63.7(e)(1) and under the specific conditions in Table 2 of this subpart.

(c) Do not conduct performance tests or compliance evaluations during periods of startup, shutdown, or malfunction. Performance tests must be conducted at high load, defined as 100 percent plus or minus 10 percent.

(d) You must conduct three separate test runs for each performance test, and each test run must last at least 1 hour.

(e) If your stationary combustion turbine is not equipped with an oxidation catalyst, you must petition the Administrator for operating limitations that you will monitor to demonstrate compliance with the formaldehyde emission limitation in Table 1. You must measure these operating parameters during the initial performance test and continuously monitor thereafter. Alternatively, you may petition the Administrator for approval of no additional operating limitations. If you submit a petition under this section, you must not conduct the initial performance test until after the petition has been approved or disapproved by the Administrator.

(f) If your stationary combustion turbine is not equipped with an oxidation catalyst and you petition the Administrator for approval of additional operating limitations to demonstrate compliance with the formaldehyde emission limitation in Table 1, your petition must include the following information described in paragraphs (f)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as additional 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.

(g) If you petition the Administrator for approval of no additional operating limitations, your petition must include the information described in paragraphs (g)(1) through (7) of this section.
(1) Identification of the parameters associated with operation of the stationary combustion turbine 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 why establishing limitations on the parameters is not possible;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of why you could not establish upper and/or lower values for the parameters which would establish limits on the parameters as operating limitations;

(5) For the parameters which could change in such a way as to increase HAP emissions, 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, unreasonable or unnecessary to adopt the parameters as operating limitations.

§ 63.6125 What are my monitor installation, operation, and maintenance requirements?

(a) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you use an oxidation catalyst emission control device, you must monitor on a continuous basis your catalyst inlet temperature in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.

(b) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you are not using an oxidation catalyst, you must continuously monitor any parameters specified in your approved petition to the Administrator, in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.

(c) If you are operating a stationary combustion turbine which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified MSW is used to generate 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 turbine in a manner which minimizes HAP emissions.

(d) If you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must monitor and record your distillate oil usage daily for all new and existing stationary combustion turbines located at the major source with a non-resettable hour meter to measure the number of hours that distillate oil is fired.

§ 63.6130 How do I demonstrate initial compliance with the emission and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 4 of this subpart.

(b) You must submit the Notification of Compliance Status containing results of the initial compliance demonstration according to the requirements in § 63.6145(f).
Continuous Compliance Requirements

§ 63.6135 How do I monitor and collect data to demonstrate continuous compliance?

(a) Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct all parametric monitoring at all times the stationary combustion turbine is operating.

(b) Do not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing the performance of the control device or in assessing emissions from the new or reconstructed stationary combustion turbine.

§ 63.6140 How do I demonstrate continuous compliance with the emission and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Table 1 and Table 2 of this subpart according to methods specified in Table 5 of this subpart.

(b) You must report each instance in which you did not meet each emission imitation or operating limitation. You must also report each instance in which you did not meet the requirements in Table 7 of 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 § 63.6150.

(c) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, and malfunction are not violations if you have operated your stationary combustion turbine in accordance with § 63.6(e)(1)(i).


Notifications, Reports, and Records

§ 63.6145 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), 63.8(f)(4), and 63.9(b) and (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you start up your new or reconstructed stationary combustion turbine before March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after March 5, 2004.

(c) As specified in § 63.9(b), if you start up your new or reconstructed stationary combustion turbine on or after March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(d) If you are required to submit an Initial Notification but are otherwise not affected by the emission limitation requirements of this subpart, in accordance with § 63.6090(b), your notification must include the information in § 63.9(b)(2)(i) through (v) and a statement that your new or reconstructed stationary combustion turbine has no additional emission limitation requirements and must explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary combustion turbine).

(e) If you are required to conduct an initial performance test, you must submit a notification of intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in § 63.7(b)(1).

(f) If you are required to comply with the emission limitation for formaldehyde, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, you must submit the Notification of Compliance Status, including the
§ 63.6150  What reports must I submit and when?

(a) Anyone who owns or operates a stationary combustion turbine which must meet the emission limitation for formaldehyde must submit a semiannual compliance report according to Table 6 of this subpart. The semiannual compliance report must contain the information described in paragraphs (a)(1) through (a)(4) of this section. The semiannual compliance report must be submitted by the dates specified in paragraphs (b)(1) through (b)(5) of this section, unless the Administrator has approved a different schedule.

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. For each deviation from an emission limitation, the compliance report must contain the information in paragraphs (a)(4)(i) through (a)(4)(iii) of this section.

i. The total operating time of each stationary combustion turbine during the reporting period.

ii. Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

iii. Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

(b) Dates of submittal for the semiannual compliance report are provided in (b)(1) through (b)(5) of this section.

1. The first semiannual compliance report must cover the period beginning on the compliance date specified in § 63.6095 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 specified in § 63.6095.

2. The first semiannual 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 in § 63.6095.

3. Each subsequent semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

4. Each subsequent semiannual 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 combustion turbine that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established the date for submitting annual 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 (4) of this section.

(c) If you are operating as a stationary combustion turbine which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 6 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (d)(1) through (5) of this section. You must report the data specified in (c)(1) through (c)(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, digester gas, or gasified MSW 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.

(d) Dates of submittal for the annual report are provided in (d)(1) through (d)(5) of this section.

(1) The first annual report must cover the period beginning on the compliance date specified in §63.6095 and ending on December 31.

(2) The first annual report must be postmarked or delivered no later than January 31.

(3) Each subsequent annual report must cover the annual reporting period from January 1 through December 31.

(4) Each subsequent annual report must be postmarked or delivered no later than January 31.

(5) For each stationary combustion turbine that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established the date for submitting annual 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 (d)(1) through (4) of this section.

(e) If you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must submit an annual report according to Table 6 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (d)(1) through (5) of this section. You must report the data specified in (e)(1) through (e)(3) of this section.

(1) The number of hours distillate oil was fired by each new or existing stationary combustion turbine during the reporting period.

(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.

§63.6155 What records must I keep?

(a) You must keep the records as described in paragraphs (a)(1) through (5).

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xv).

(2) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(3) Records of the occurrence and duration of each startup, shutdown, or malfunction as required in §63.10(b)(2)(i).

(4) Records of the occurrence and duration of each malfunction of the air pollution control equipment, if applicable, as required in §63.10(b)(2)(ii).

(5) Records of all maintenance on the air pollution control equipment as required in §63.10(b)(iii).
(b) If you are operating a stationary combustion turbine which fires landfill gas, digester gas or gasified MSW equivalent to 10 percent or more of the gross heat input on an annual basis, or if you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must keep the records of your daily fuel usage monitors.

(c) You must keep the records required in Table 5 of this subpart to show continuous compliance with each operating limitation that applies to you.

§ 63.6160 In what form and how long must I keep my records?

(a) You must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection 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 retain your records of the most recent 2 years on site or your records must be accessible on site. Your records of the remaining 3 years may be retained off site.

Other Requirements and Information

§ 63.6165 What parts of the General Provisions apply to me?

Table 7 of this subpart shows which parts of the General Provisions in § 63.1 through 15 apply to you.

§ 63.6170 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 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 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 section 40 CFR part 63, subpart E, the authorities contained in paragraph (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 will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the emission limitations or operating limitations in § 63.6100 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 to determine outlet formaldehyde concentration, as specified in § 63.6110(b).

§ 63.6175 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA; in 40 CFR 63.2, the General Provisions of this part; and in this section:
Area source means any stationary source of HAP that is not a major source as defined in this part.

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 reciprocating internal combustion engines.

CAA means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Public Law 101-549, 104 Stat. 2399).

Cogeneration cycle stationary combustion turbine means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger, such as a heat recovery steam generator.

Combined cycle stationary combustion turbine means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger to generate steam for use in a steam turbine.

Combustion turbine engine test cells/stands means engine test cells/stands, as defined in subpart PPPPPP of this part, that test stationary combustion turbines.

Compressor station means any permanent combination of compressors that move natural gas at increased pressure from fields, in transmission pipelines, or into storage.

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;

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart; or

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diffusion flame gas-fired stationary combustion turbine means:

(1)(i) Each stationary combustion turbine which is equipped only to fire gas using diffusion flame technology,

(ii) Each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, during any period when it is firing gas, and

(iii) Each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.

(2) Diffusion flame gas-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine,
(ii) Any stationary combustion turbine located on the North Slope of Alaska, or

(iii) Any stationary combustion turbine burning landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or any stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis.

_Diffusion flame oil-fired stationary combustion turbine_ means:

(1)(i) Each stationary combustion turbine which is equipped only to fire oil using diffusion flame technology, and

(ii) Each stationary combustion turbine which is equipped both to fire oil using diffusion flame technology and to fire gas, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil.

(2) Diffusion flame oil-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine, or

(ii) Any stationary combustion turbine located on the North Slope of Alaska.

_Diffusion flame technology_ means a configuration of a stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition.

_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.

_Distillate oil_ 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.

_Emergency stationary combustion turbine_ means any stationary combustion turbine that operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency stationary combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary combustion turbines.

_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.

_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 pollutant (HAP)_ means any air pollutant listed in or pursuant to section 112(b) of the CAA.

_ISO standard day conditions_ means 288 degrees Kelvin (15 °C), 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 premix gas-fired stationary combustion turbine_ means:

(1)(i) Each stationary combustion turbine which is equipped only to fire gas using lean premix technology,
(ii) Each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, during any period when it is firing gas, and

(iii) Each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.

(2) Lean premix gas-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine,

(ii) Any stationary combustion turbine located on the North Slope of Alaska, or

(iii) Any stationary combustion turbine burning landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or any stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis.

**Lean premix oil-fired stationary combustion turbine** means:

(1)(i) Each stationary combustion turbine which is equipped only to fire oil using lean premix technology, and

(ii) Each stationary combustion turbine which is equipped both to fire oil using lean premix technology and to fire gas, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil.

(2) Lean premix oil-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine, or

(ii) Any stationary combustion turbine located on the North Slope of Alaska.

**Lean premix technology** means a configuration of a stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture for combustion in the combustor. Mixing may occur before or in the combustion chamber.

**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 this section, 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 this section, 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 this standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.
Municipal solid waste as used in this subpart is as defined in § 60.1465 of Subpart AAAA of 40 CFR Part 60, New Source Performance Standards for Small Municipal Waste Combustion Units.

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. May be field or pipeline quality. For the purposes of this subpart, the definition of natural gas includes similarly constituted fuels such as field gas, refinery gas, and syngas.

Natural gas transmission means the pipelines used for the long distance transport of natural gas (excluding processing). Specific equipment used in natural gas transmission includes the land, mains, valves, meters, boosters, regulators, storage vessels, dehydrators, compressors, and their driving units and appurtenances, and equipment used transporting gas from a production plant, delivery point of purchased gas, gathering system, storage area, or other wholesale source of gas to one or more distribution area(s).

Natural gas transmission and storage facility means any grouping of equipment where natural gas is processed, compressed, or stored prior to entering a pipeline to a local distribution company or (if there is no local distribution company) to a final end user. Examples of a facility for this source category are: an underground natural gas storage operation; or a natural gas compressor station that receives natural gas via pipeline, from an underground natural gas storage operation, or from a natural gas processing plant. The emission points associated with these phases include, but are not limited to, process vents. Processes that may have vents include, but are not limited to, dehydration and compressor station engines. Facility, for the purpose of a major source determination, means natural gas transmission and storage equipment that is located inside the boundaries of an individual surface site (as defined in this section) and is connected by ancillary equipment, such as gas flow lines or power lines. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Natural gas transmission and storage equipment or groupings of equipment located on different gas leases, mineral fee tracts, lease tracts, subsurface unit areas, surface fee tracts, or surface lease tracts shall not be considered part of the same facility.

North Slope of Alaska means the area north of the Arctic Circle (latitude 66.5 degrees North).

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 emission control device means an emission control device that incorporates catalytic oxidation to reduce CO emissions.

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.

Regenerative/recuperative cycle stationary combustion turbine means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger to preheat the combustion air entering the combustion chamber of the stationary combustion turbine.

Research or laboratory facility means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis matter.

Simple cycle stationary combustion turbine means any stationary combustion turbine that does not recover heat from the stationary combustion turbine exhaust gases.

Stationary combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. Stationary combustion turbines do not include turbines located at a research or laboratory facility, if research is conducted on the turbine itself and the turbine is not being used to power other applications at the research or laboratory facility.

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.

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.


Table 1 to Subpart YYYY of Part 63—Emission Limitations

As stated in § 63.6100, you must comply with the following emission limitations

<table>
<thead>
<tr>
<th>For each new or reconstructed stationary combustion turbine described in § 63.6100 which is . . .</th>
<th>You must meet the following emission limitations . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a lean premix gas-fired stationary combustion turbine as defined in this subpart, 2. a lean premix oil-fired stationary combustion turbine as defined in this subpart, 3. a diffusion flame gas-fired stationary combustion turbine as defined in this subpart, or 4. a diffusion flame oil-fired stationary combustion turbine as defined in this subpart.</td>
<td>limit the concentration of formaldehyde to 91 ppbvd or less at 15 percent O₂.</td>
</tr>
</tbody>
</table>

Table 2 to Subpart YYYY of Part 63—Operating Limitations

As stated in §§ 63.6100 and 63.6140, you must comply with the following operating limitations
Table 3 to Subpart YYYY of Part 63—Requirements for Performance Tests and Initial Compliance Demonstrations

As stated in § 63.6120, you must comply with the following requirements for performance tests and initial compliance demonstrations:

<table>
<thead>
<tr>
<th>You must . . .</th>
<th>Using . . .</th>
<th>According to the following requirements . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. demonstrate formaldehyde emissions meet the emission limitations specified in Table 1 by a performance test initially and on an annual basis AND</td>
<td>Test Method 320 of 40 CFR part 63, appendix A; ASTM D6348-03 provided that %R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70% and less than or equal to 130%; or other methods approved by the Administrator</td>
<td>formaldehyde concentration must be corrected to 15 percent O₂, dry basis. Results of this test consist of the average of the three 1 hour runs. Test must be conducted within 10 percent of 100 percent load.</td>
</tr>
<tr>
<td>b. select the sampling port location and the number of traverse points AND</td>
<td>Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i)</td>
<td>if using an air pollution control device, the sampling site must be located at the outlet of the air pollution control device.</td>
</tr>
<tr>
<td>c. determine the O₂ concentration at the sampling port location AND</td>
<td>Method 3A or 3B of 40 CFR part 60, appendix A</td>
<td>measurements to determine O₂ concentration must be made at the same time as the performance test.</td>
</tr>
<tr>
<td>d. determine the moisture content at the sampling port location for the purposes of correcting the formaldehyde concentration to a dry basis</td>
<td>Method 4 of 40 CFR part 60, appendix A or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03</td>
<td>measurements to determine moisture content must be made at the same time as the performance test.</td>
</tr>
</tbody>
</table>

Table 4 to Subpart YYYY of Part 63—Initial Compliance With Emission Limitations

As stated in §§ 63.6110 and 63.6130, you must comply with the following requirements to demonstrate initial compliance with emission limitations:

<table>
<thead>
<tr>
<th>For the . . .</th>
<th>You have demonstrated initial compliance if . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>emission limitation for formaldehyde.</td>
<td>the average formaldehyde concentration meets the emission limitations specified in Table 1.</td>
</tr>
</tbody>
</table>

Table 5 to Subpart YYYY of Part 63—Continuous Compliance With Operating Limitations

As stated in §§ 63.6135 and 63.6140, you must comply with the following requirements to demonstrate continuing compliance with operating limitations:
For each stationary combustion turbine complying with the emission limitation for formaldehyde . . . You must demonstrate continuous compliance by . . .

| 1. with an oxidation catalyst | continuously monitoring the inlet temperature to the catalyst and maintaining the 4-hour rolling average of the inlet temperature within the range suggested by the catalyst manufacturer. |
| 2. without the use of an oxidation catalyst | continuously monitoring the operating limitations that have been approved in your petition to the Administrator. |

Table 6 to Subpart YYYY of Part 63—Requirements for Reports

As stated in § 63.6150, you must comply with the following requirements for reports

<table>
<thead>
<tr>
<th>If you own or operate a . . .</th>
<th>you must . . .</th>
<th>According to the following requirements . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. stationary combustion turbine which must comply with the formaldehyde emission limitation</td>
<td>report your compliance status</td>
<td>semiannually, according to the requirements of § 63.6150.</td>
</tr>
<tr>
<td>2. stationary combustion turbine which fires landfill gas, digester gas or gasified MSW equivalent to 10 percent or more of the gross heat input on an annual basis</td>
<td>report (1) 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, digester gas, or gasified MSW is equivalent to 10 percent or more of the gross heat input on an annual basis, (2) the operating limits provided in your federally enforceable permit, and any deviations from these limits, and (3) any problems or errors suspected with the meters</td>
<td>annually, according to the requirements in § 63.6150.</td>
</tr>
<tr>
<td>3. a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source</td>
<td>report (1) the number of hours distillate oil was fired by each new or existing stationary combustion turbine during the reporting period, (2) the operating limits provided in your federally enforceable permit, and any deviations from these limits, and (3) any problems or errors suspected with the meters</td>
<td>annually, according to the requirements in § 63.6150.</td>
</tr>
</tbody>
</table>

Table 7 of Subpart YYYY of Part 63—Applicability of General Provisions to Subpart YYYY

You must comply with the applicable General Provisions requirements:

<table>
<thead>
<tr>
<th>Citation</th>
<th>Subject</th>
<th>Applies to Subpart YYYY</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>§ 63.1</td>
<td>General applicability of the General Provisions</td>
<td>Yes</td>
<td>Additional terms defined in § 63.6175.</td>
</tr>
<tr>
<td>§ 63.2</td>
<td>Definitions</td>
<td>Yes</td>
<td>Additional terms defined in § 63.6175.</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</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>Citation</td>
<td>Subject</td>
<td>Applies to Subpart YYYY</td>
<td>Explanation</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------</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</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</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)(1)</td>
<td>Operation and maintenance</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.6(e)(2)</td>
<td>[Reserved]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§ 63.6(e)(3)</td>
<td>SSMP</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.6(f)(1)</td>
<td>Applicability of standards except during startup, shutdown, or malfunction (SSM)</td>
<td>Yes</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 alternative standard</td>
<td>Yes</td>
<td>Subpart YYYYY does not contain opacity or visible emission standards.</td>
</tr>
<tr>
<td>§ 63.6(h)</td>
<td>Opacity and visible emission standards</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§ 63.6(i)</td>
<td>Compliance extension procedures and criteria</td>
<td>Yes</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>Subpart YYYYY contains performance test dates at § 63.6110.</td>
</tr>
<tr>
<td>§ 63.7(a)(3)</td>
<td>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>Yes</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>Subpart YYYYY specifies test methods at § 63.6120.</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>Citation</td>
<td>Subject</td>
<td>Applies to Subpart YYYYY</td>
<td>Explanation</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------</td>
<td>--------------------------</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 YYYYY contains specific requirements for monitoring at § 63.6125.</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</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>monitoring systems</td>
<td></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>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.8(c)(1)(ii)</td>
<td>Parts for repair of CMS readily available</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.8(c)(1)(iii)</td>
<td>SSMP for CMS required</td>
<td>Yes</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)</td>
<td>Yes</td>
<td>Except that subpart YYYYY does not require continuous opacity monitoring systems (COMS).</td>
</tr>
<tr>
<td>§ 63.8(c)(5)</td>
<td>COMS minimum procedures</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§ 63.8(c)(6)-(8)</td>
<td>CMS requirements</td>
<td>Yes</td>
<td>Except that subpart YYYYY does not require COMS.</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></td>
</tr>
<tr>
<td>§ 63.8(f)(6)</td>
<td>Alternative to relative accuracy test</td>
<td>Yes</td>
<td></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 §§ 63.6135 and 63.6140.</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></td>
</tr>
<tr>
<td>§ 63.9(d)</td>
<td>Notification of special compliance</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>requirements for new sources</td>
<td></td>
<td></td>
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<tr>
<td>§ 63.9(e)</td>
<td>Notification of performance test</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.9(f)</td>
<td>Notification of visible emissions/opacity</td>
<td>No</td>
<td>Subpart YYYYY does not contain opacity or VE standards.</td>
</tr>
<tr>
<td></td>
<td>test</td>
<td></td>
<td></td>
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<tr>
<td>§ 63.9(g)(1)</td>
<td>Notification of performance evaluation</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.9(g)(2)</td>
<td>Notification of use of COMS data</td>
<td>No</td>
<td>Subpart YYYYY does not contain opacity or VE standards.</td>
</tr>
<tr>
<td>§ 63.9(g)(3)</td>
<td>Notification that criterion for</td>
<td>Yes</td>
<td>If alternative is in use.</td>
</tr>
<tr>
<td></td>
<td>alternative to relative accuracy test</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>test audit (RATA) is exceeded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Applies to Subpart YYYY</td>
<td>Explanation</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------</td>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>§ 63.9(h)</td>
<td>Notification of compliance status</td>
<td>Yes</td>
<td>Except that notifications for sources not conducting performance tests 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></td>
</tr>
<tr>
<td>§ 63.9(j)</td>
<td>Change in previous information</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(a)</td>
<td>Administrative provisions for recordkeeping and reporting</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(b)(1)</td>
<td>Record retention</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(b)(2)(i)-(iii)</td>
<td>Records related to SSM</td>
<td>Yes</td>
<td></td>
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<tr>
<td>§ 63.10(b)(2)(iv)-(v)</td>
<td>Records related to actions during SSM</td>
<td>Yes</td>
<td></td>
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<tr>
<td>§ 63.10(b)(2)(vi)-(xi)</td>
<td>CMS records</td>
<td>Yes</td>
<td></td>
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<tr>
<td>§ 63.10(b)(2)(xii)</td>
<td>Record when under waiver</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(b)(2)(xiii)</td>
<td>Records when using alternative to RATA</td>
<td>Yes For CO standard if using RATA alternative.</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(b)(2)(xiv)</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 CMS</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 YYYY 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>
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<tr>
<td>§ 63.10(d)(5)</td>
<td>Startup, shutdown, and malfunction reports</td>
<td>No</td>
<td>Subpart YYYY does not require reporting of startup, shutdowns, or malfunctions.</td>
</tr>
<tr>
<td>§ 63.10(e)(1) and (2)</td>
<td>Additional CMS reports</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(e)(2)(i)</td>
<td>COMS-related report</td>
<td>No</td>
<td>Subpart YYYY does not require COMS.</td>
</tr>
<tr>
<td>§ 63.10(e)(3)</td>
<td>Excess emissions and parameter exceedances reports</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§ 63.10(e)(4)</td>
<td>Reporting COMS data</td>
<td>No</td>
<td>Subpart YYYY does not require COMS.</td>
</tr>
<tr>
<td>§ 63.10(f)</td>
<td>Waiver for recordkeeping and 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>
Attachment D

Part 70 Operating Permit No: 157-40694-00033

[Downloaded from the eCFR on July 23, 2014]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.
(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.

§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 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:

\[
\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq. 1)
\]

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:

\[
F_o = \frac{0.209 \cdot F_d}{F_c} \quad (Eq. 2)
\]

Where:
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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.

F₀d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm³/J (dscf/106 Btu).

F₀c = 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:

\[ X_{CO₂} = \frac{5.9}{F_0} \]  (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:

\[ C_{adj} = C_d \cdot \frac{X_{CO₂}}{\%CO₂} \]  (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;
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

A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

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.

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;

A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

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;

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;

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;

For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

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 \( O_2 \) or \( CO_2 \) 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 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 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 and 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 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 unit locations, 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.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(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 . . .</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. 4SRB stationary RICE</td>
<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>
</tr>
<tr>
<td></td>
<td>b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O₂</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 O\textsubscript{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.\footnote{Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.}</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;</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 O\textsubscript{2} and not using NSCR.</td>
<td></td>
</tr>
</tbody>
</table>

\footnote{Sources 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 O\textsubscript{2}. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O\textsubscript{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.\footnote{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.}</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 O\textsubscript{2}</td>
<td></td>
</tr>
</tbody>
</table>
For each... You must meet the following emission limitation, except during periods of startup... During periods of startup you must...

| 3. CI stationary RICE | a. Reduce CO emissions by 70 percent or more; or |
|                       | b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O2 |

Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 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... You must meet the following operating limitation, except during periods of startup...

| 1. New and reconstructed 2SLB and CI stationary RICE >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 >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 and using an oxidation catalyst. | a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.1 |
| 2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst | a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water 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 |
| 3. New and reconstructed 2SLB and CI stationary RICE >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 >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 and not using an oxidation catalyst; and Comply with any operating limitations approved by the Administrator. | |
For each . . . & You must meet the following operating limitation, except during periods of startup . . .
\hline
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. & \\
\hline
\end{tabular}

Sources 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:

<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. 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> | |
<p>| 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&lt;sub&gt;2&lt;/sub&gt;. | |</p>
<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;HP≤500</td>
<td>a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O₂; or 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 O₂; or b. Reduce CO emissions by 70 percent or more.</td>
<td></td>
</tr>
<tr>
<td>6. Emergency stationary SI RICE and black start stationary SI RICE.¹</td>
<td>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;² b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.³</td>
<td></td>
</tr>
<tr>
<td>7. Non-Emergency, non-black start stationary SI RICE &lt;100 HP that are not 2SLB stationary RICE</td>
<td>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;² b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.³</td>
<td></td>
</tr>
<tr>
<td>8. Non-Emergency, non-black start 2SLB stationary SI RICE &lt;100 HP</td>
<td>a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;² b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.³</td>
<td></td>
</tr>
</tbody>
</table>
### For each . . .

<table>
<thead>
<tr>
<th></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>

1If 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.

2Sources 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.

3Sources 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 O₂; 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 O₂; 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. | |

¹ For engines less than or equal to 500 hours of operation.

² For engines less than or equal to 500 hours of operation.
<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>5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE &gt;500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE &gt;500 HP that operate 24 hours or less per calendar year</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>6. Non-emergency, non-black start 2SLB stationary RICE</td>
<td>a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.</td>
<td></td>
</tr>
<tr>
<td>7. Non-emergency, non-black start 4SLB 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></td>
</tr>
<tr>
<td></td>
<td>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td>8. Non-emergency, non-black start 4SLB 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></td>
</tr>
<tr>
<td></td>
<td>b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
<td></td>
</tr>
<tr>
<td>For each . . .</td>
<td>You must meet the following requirement, except during periods of startup . . .</td>
<td>During periods of startup you must . . .</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<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>
<td></td>
</tr>
<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>Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.</td>
<td></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></td>
</tr>
<tr>
<td></td>
<td>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
<td></td>
</tr>
<tr>
<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>
<td></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></td>
</tr>
<tr>
<td></td>
<td>b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
<td></td>
</tr>
<tr>
<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>
<td></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>Install NSCR to reduce HAP emissions from the stationary RICE.</td>
<td></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></td>
</tr>
<tr>
<td></td>
<td>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
<td></td>
</tr>
</tbody>
</table>
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.

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 2d of this subpart.

If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

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 6710, 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>
<tbody>
<tr>
<td>1. 2SLB, 4SLB, and CI stationary RICE</td>
<td>a. reduce CO 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></td>
<td>(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 &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-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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(b) Measurements to determine O\textsubscript{2} must be made at the same time as the measurements for CO concentration.</td>
</tr>
<tr>
<td></td>
<td>ii. Measure the O\textsubscript{2} at the inlet and outlet of the control device; and</td>
<td></td>
<td></td>
<td>(c) The CO concentration must be at 15 percent O\textsubscript{2}, dry basis.</td>
</tr>
<tr>
<td></td>
<td>iii. Measure the CO at the inlet and the outlet of the control device</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)\textsuperscript{ac} (heated probe not necessary)
For each 4SRB stationary RICE, a. reduce formaldehyde emissions

<table>
<thead>
<tr>
<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>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)* (heated probe not necessary)</td>
<td>(a) For formaldehyde, $O_2$, and moisture measurement, ducts $\leq$6 inches in diameter may be sampled at a single point located at the duct centroid and ducts $&gt;6$ and $\leq$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>ii. Measure $O_2$ 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*</td>
<td>(a) Measurements to determine $O_2$ concentration must be made at the same time as the measurements for formaldehyde or THC concentration.</td>
</tr>
<tr>
<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*, 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>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 $O_2$, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
<tr>
<td></td>
<td>v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: All methods and techniques are referenced to the appropriate sections and appendices of the aforementioned regulations and standards.
For each . . .  | Complying with the requirement to . . . | You must . . . | Using . . . | According to the following requirements . . .  
---|---|---|---|---
3. Stationary RICE  | a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust | i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and | (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 >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, 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. |  
|  |  |  |  
|  | ii. Determine the O$_2$ concentration of the stationary RICE exhaust at the sampling port location; and | (1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)$^a$ (heated probe not necessary) | (a) Measurements to determine O$_2$ concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration. |  
|  |  |  |  
|  | iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and | (1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03$^a$ | (a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration. |  
|  |  |  |  
|  | iv. Measure formaldehyde at the exhaust of the stationary RICE; or | (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 (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. |  
|  |  |  |  
|  | v. measure CO at the exhaust of the stationary RICE | (1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)$^{ac}$, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03$^a$ | (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. |
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>
<tbody>
<tr>
<td>1. 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, non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</td>
<td>a. Reduce CO emissions and using oxidation catalyst, and using a CPMS</td>
<td>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.</td>
</tr>
<tr>
<td>2. Non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</td>
<td>a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS</td>
<td>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.</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, non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</td>
<td>a. Reduce CO emissions and not using oxidation catalyst</td>
<td>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.</td>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
<td>You have demonstrated initial compliance if . . .</td>
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<tr>
<td>---------------</td>
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<td>--------------------------------------------------</td>
</tr>
<tr>
<td>4. Non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</td>
<td>a. Limit the concentration of CO, and not using oxidation catalyst</td>
<td>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.</td>
</tr>
<tr>
<td>5. 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, non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</td>
<td>a. Reduce CO emissions, and using a CEMS</td>
<td>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.</td>
</tr>
<tr>
<td>6. Non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</td>
<td>a. Limit the concentration of CO, and using a CEMS</td>
<td>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.</td>
</tr>
<tr>
<td>7. 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. 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>For each . . .</td>
<td>Complying with the requirement to . . .</td>
<td>You have demonstrated initial compliance if . . .</td>
</tr>
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<td>---------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>8. 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>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></td>
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</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></td>
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<td></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></td>
<td></td>
<td></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 O\textsubscript{2}, 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 not remote stationary RICE and 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>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</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>
<td></td>
</tr>
</tbody>
</table>

2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP

<table>
<thead>
<tr>
<th>a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS</th>
<th>i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; and</th>
</tr>
</thead>
<tbody>
<tr>
<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>iii. Reducing the data to 4-hour rolling averages; and</td>
<td></td>
</tr>
<tr>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
<td></td>
</tr>
</tbody>
</table>

3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP

<table>
<thead>
<tr>
<th>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>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>
</tbody>
</table>

4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP

<table>
<thead>
<tr>
<th>a. Reduce formaldehyde emissions and using NSCR</th>
<th>i. Collecting the catalyst inlet temperature data according to §63.6625(b); and</th>
</tr>
</thead>
<tbody>
<tr>
<td>ii. Reducing these data to 4-hour rolling averages; and</td>
<td>iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</td>
</tr>
<tr>
<td>iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
<td></td>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
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<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>
</tr>
<tr>
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<tr>
<td></td>
<td></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>
</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>
</tr>
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<tr>
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</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>
</tr>
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</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
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<tr>
<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>
</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>
</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>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------</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>
</tr>
<tr>
<td></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 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>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>
</tr>
<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
</tr>
<tr>
<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>
</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>
</tr>
</tbody>
</table>

After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[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 100s≤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;</td>
</tr>
<tr>
<td></td>
<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>i. Semiannually according to the requirements in §63.6650(b).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).</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>
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>
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<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>Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.</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>Except that §63.7(b)(1) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.7(b)(2)</td>
<td>Notification of rescheduling</td>
<td>Yes.</td>
<td>Except that §63.7(b)(2) only applies as specified in §63.6645.</td>
</tr>
<tr>
<td>§63.7(c)</td>
<td>Quality assurance/test plan</td>
<td>Yes.</td>
<td>Except that §63.7(c) only applies as specified in §63.6645.</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>Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.</td>
</tr>
<tr>
<td>§63.7(e)(2)</td>
<td>Conduct of performance tests and reduction of data</td>
<td>Yes.</td>
<td>Subpart ZZZZ specifies test methods at §63.6620.</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</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</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>
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<td>--------------------</td>
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</tr>
<tr>
<td>§63.8(d) CMS quality control</td>
<td>Yes.</td>
<td>Except for §63.8(e)(5)(ii), which applies to COMS.</td>
<td></td>
</tr>
<tr>
<td>§63.8(e) CMS performance evaluation</td>
<td>Yes</td>
<td>Except that §63.8(e) only applies as specified in §63.6645.</td>
<td></td>
</tr>
<tr>
<td>§63.8(f)(1)-(5) Alternative monitoring method</td>
<td>Yes</td>
<td>Except that §63.8(f)(4) only applies as specified in §63.6645.</td>
<td></td>
</tr>
<tr>
<td>§63.8(f)(6) Alternative to relative accuracy test</td>
<td>Yes</td>
<td>Except that §63.8(f)(6) only applies as specified in §63.6645.</td>
<td></td>
</tr>
<tr>
<td>§63.8(g) 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>
<td></td>
</tr>
<tr>
<td>§63.9(a) Applicability and State delegation of notification requirements</td>
<td>Yes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.9(b)(1)-(5) Initial notifications</td>
<td>Yes</td>
<td>Except that §63.9(b)(3) is reserved.</td>
<td></td>
</tr>
<tr>
<td>§63.9(c) Request for compliance extension</td>
<td>Yes</td>
<td>Except that §63.9(c) only applies as specified in §63.6645.</td>
<td></td>
</tr>
<tr>
<td>§63.9(d) 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>
<td></td>
</tr>
<tr>
<td>§63.9(e) Notification of performance test</td>
<td>Yes</td>
<td>Except that §63.9(e) only applies as specified in §63.6645.</td>
<td></td>
</tr>
<tr>
<td>§63.9(f) Notification of visible emission (VE)/opacity test</td>
<td>No</td>
<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
<td></td>
</tr>
<tr>
<td>§63.9(g)(1) Notification of performance evaluation</td>
<td>Yes</td>
<td>Except that §63.9(g) only applies as specified in §63.6645.</td>
<td></td>
</tr>
<tr>
<td>§63.9(g)(2) Notification of use of COMS data</td>
<td>No</td>
<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
<td></td>
</tr>
<tr>
<td>§63.9(g)(3) Notification that criterion for alternative to RATA is exceeded</td>
<td>Yes</td>
<td>If alternative is in use.</td>
<td></td>
</tr>
<tr>
<td>§63.9(h)(1)-(6) 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>
<td></td>
</tr>
<tr>
<td>§63.9(i) Adjustment of submittal deadlines</td>
<td>Yes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.9(j) Change in previous information</td>
<td>Yes.</td>
<td></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></td>
</tr>
<tr>
<td>§63.10(b)(2)(i)-(v)</td>
<td>Records related to SSM</td>
<td>No.</td>
<td></td>
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<tr>
<td>§63.10(b)(2)(vi)-(xi)</td>
<td>Records</td>
<td>Yes.</td>
<td></td>
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<tr>
<td>§63.10(b)(2)(xii)</td>
<td>Records when under waiver</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.10(b)(2)(xiii)</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)(xiv)</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>
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<tr>
<td>§63.10(d)(2)</td>
<td>Report of performance test results</td>
<td>Yes.</td>
<td></td>
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<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>
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<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>
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</tr>
<tr>
<td>§63.15</td>
<td>Availability of information</td>
<td>Yes.</td>
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</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 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,
whichever 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


(3) "ICAC Test Protocol for Periodic Monitoring", EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

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>

Run Type: [ ] Pre-Sample Calibration | Stack Gas Sample | Post-Sample Cal. Check | Repeatability Check
(X) Gas: O₂ CO O₂ CO O₂ CO

Sample Cond. Phase

Measurement Data Phase

Mean

Refresh Phase

[78 FR 6721, Jan. 30, 2013]
Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Source: 76 FR 15664, Mar. 21, 2011, unless otherwise noted.

What This Subpart Covers

§63.7480 What is the purpose of this subpart?

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§63.7485 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575.

[78 FR 7162, Jan. 31, 2013]

§63.7490 What is the affected source of this subpart?

(a) This subpart applies to new, reconstructed, and existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in §63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in §63.7575, located at a major source.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after June 4, 2010, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in §63.2, you commence reconstruction after June 4, 2010, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.
(e) An existing electric utility steam generating unit (EGU) that meets the applicability requirements of this subpart after the effective date of this final rule due to a change (e.g., fuel switch) is considered to be an existing source under this subpart.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013]

§63.7491 Are any boilers or process heaters not subject to this subpart?

The types of boilers and process heaters listed in paragraphs (a) through (n) of this section are not subject to this subpart.

(a) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part or a natural gas-fired EGU as defined in subpart UUUUU of this part firing at least 85 percent natural gas on an annual heat input basis.

(b) A recovery boiler or furnace covered by subpart MM of this part.

(c) A boiler or process heater that is used specifically for research and development, including test steam boilers used to provide steam for testing the propulsion systems on military vessels. This does not include units that provide heat or steam to a process at a research and development facility.

(d) A hot water heater as defined in this subpart.

(e) A refining kettle covered by subpart X of this part.

(f) An ethylene cracking furnace covered by subpart YY of this part.

(g) Blast furnace stoves as described in EPA-453/R-01-005 (incorporated by reference, see §63.14).

(h) Any boiler or process heater that is part of the affected source subject to another subpart of this part, such as boilers and process heaters used as control devices to comply with subparts JJJ, OOO, PPP, and U of this part.

(i) Any boiler or process heater 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 or process heater is provided by regulated gas streams that are subject to another standard.

(j) Temporary boilers and process heaters as defined in this subpart.

(k) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

(l) Any boiler or process heater specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.

(m) A unit that burns hazardous waste covered by Subpart EEE of this part. A unit that is exempt from Subpart EEE as specified in §63.1200(b) is not covered by Subpart EEE.

(n) Residential boilers as defined in this subpart.


§63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by April 1, 2013, or upon startup of your boiler or process heater, whichever is later.
(b) If you have an existing boiler or process heater, you must comply with this subpart no later than January 31, 2016, except as provided in §63.6(i).

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.

(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in §63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart and are no longer subject to part 60, subparts CCCC or DDDD beginning on the effective date of the switch as identified under the provisions of §60.2145(a)(2) and (3) or §60.2710(a)(2) and (3).

(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2016, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.

(g) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for an exemption in §63.7491(l) that becomes subject to this subpart after January 31, 2013, you must be in compliance with the applicable existing source provisions of this subpart within 3 years after such unit becomes subject to this subpart.

(h) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change.

(i) If you own or operate a new industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change.


Emission Limitations and Work Practice Standards

§63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters, as defined in §63.7575 are:

(a) Pulverized coal/solid fossil fuel units.

(b) Stokers designed to burn coal/solid fossil fuel.

(c) Fluidized bed units designed to burn coal/solid fossil fuel.

(d) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solid.
(e) Fluidized bed units designed to burn biomass/bio-based solid.

(f) Suspension burners designed to burn biomass/bio-based solid.

(g) Fuel cells designed to burn biomass/bio-based solid.

(h) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.

(i) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid.

(j) Dutch ovens/pile burners designed to burn biomass/bio-based solid.

(k) Units designed to burn liquid fuel that are non-continental units.

(l) Units designed to burn gas 1 fuels.

(m) Units designed to burn gas 2 (other) gases.

(n) Metal process furnaces.

(o) Limited-use boilers and process heaters.

(p) Units designed to burn solid fuel.

(q) Units designed to burn liquid fuel.

(r) Units designed to burn coal/solid fossil fuel.

(s) Fluidized bed units with an integrated fluidized bed heat exchanger designed to burn coal/solid fossil fuel.

(t) Units designed to burn heavy liquid fuel.

(u) Units designed to burn light liquid fuel.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7163, Jan. 31, 2013]

§63.7500 What emission limitations, work practice standards, and operating limits must I meet?

(a) You must meet the requirements in paragraphs (a)(1) through (3) of this section, except as provided in paragraphs (b), through (e) of this section. You must meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of this section.

(1) You must meet each emission limit and work practice standard in Tables 1 through 3, and 11 through 13 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under §63.7522. The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers and process heaters that generate either steam, cogenerate steam with electricity, or both. The output-based emission limits, in units of pounds per megawatt-hour, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers that generate only electricity. Boilers that perform multiple functions (cogeneration and electricity generation) or supply steam to common headers would calculate a total steam energy output using equation 21 of §63.7575 to demonstrate compliance with the output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart. If you operate a new boiler or process heater, you can choose to comply with alternative limits as discussed in paragraphs (a)(1)(i) through (iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.
(i) If your boiler or process heater commenced construction or reconstruction after June 4, 2010 and before May 20, 2011, you may comply with the emission limits in Table 1 or 11 to this subpart until January 31, 2016.

(ii) If your boiler or process heater commenced construction or reconstruction after May 20, 2011 and before December 23, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until January 31, 2016.

(iii) If your boiler or process heater commenced construction or reconstruction on or after December 23, 2011 and before April 1, 2013, you may comply with the emission limits in Table 1 or 13 to this subpart until January 31, 2016.

(2) You must meet each operating limit in Table 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Table 4 to this subpart, or you wish to establish and monitor an alternative operating limit or an alternative monitoring parameter, you must apply to the EPA Administrator for approval of alternative monitoring under §63.8(f).

(3) At all times, you must operate and maintain any affected source (as defined in §63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. 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) As provided in §63.6(g), EPA may approve use of an alternative to the work practice standards in this section.

(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart.

(d) Boilers and process heaters with a heat input capacity of less than or equal to 5 million Btu per hour in the units designed to burn gas 2 (other) fuels subcategory or units designed to burn light liquid fuels subcategory must complete a tune-up every 5 years as specified in §63.7540.

(e) Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity of less than or equal to 5 million Btu per hour must complete a tune-up every 5 years as specified in §63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity greater than 5 million Btu per hour and less than 10 million Btu per hour must complete a tune-up every 2 years as specified in §63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.

(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 to this subpart.


§63.7501 [Reserved]

General Compliance Requirements

§63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f).

(b) [Reserved]
You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.

(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) 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 design, data collection, and the quality assurance and quality control elements outlined in §63.8(d) and the elements described in paragraphs (d)(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. 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 §63.7525. Using the process described in §63.8(f)(4), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan.

(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, accuracy audits, analytical drift).

(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 10 to this subpart), (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.

(e) If you have an applicable emission limit, and you choose to comply using definition (2) of “startup” in §63.7575, you must develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to this subpart. The SSP must be maintained onsite and available upon request for public inspection.

Testing, Fuel Analyses, and Initial Compliance Requirements

§63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance (stack) testing, your initial compliance requirements include all the following:

(1) Conduct performance tests according to §63.7520 and Table 5 to this subpart.

(2) Conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart, except as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) For each boiler or process heater that burns a single type of fuel, you are not required to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as units that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.7521 and Table 6 to this subpart.

(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those Gas 1 fuels according to §63.7521 and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those non-Gas 1 gaseous fuels are subject to another subpart of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those non-Gas 1 fuels according to §63.7521 and Table 6 to this subpart.

(iii) You are not required to conduct a chlorine fuel analysis for any gaseous fuels. You must conduct a fuel analysis for mercury on gaseous fuels unless the fuel is exempted in paragraphs (a)(2)(i) and (ii) of this section.

(3) Establish operating limits according to §63.7530 and Table 7 to this subpart.

(4) Conduct CMS performance evaluations according to §63.7525.

(b) For each boiler or process heater that you elect to demonstrate compliance with the applicable emission limits in Tables 1 or 2 or 11 through 13 to this subpart for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as units that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.7521 and Table 6 to this subpart.

(c) If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to §63.7525(a). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, as specified in §63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this section for the HAP for which CEMS are used.

(d) If your boiler or process heater is subject to a PM limit, your initial compliance demonstration for PM is to conduct a performance test in accordance with §63.7520 and Table 5 to this subpart.

(e) For existing affected sources (as defined in §63.7490), you must complete the initial compliance demonstrations, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. You must complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in §63.7495,
except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in §63.7495.

(f) For new or reconstructed affected sources (as defined in §63.7490), you must complete the initial compliance demonstration with the emission limits no later than July 30, 2013 or within 180 days after startup of the source, whichever is later. If you are demonstrating compliance with an emission limit in Tables 11 through 13 to this subpart that is less stringent (that is, higher) than the applicable emission limit in Table 1 to this subpart, you must demonstrate compliance with the applicable emission limit in Table 1 no later than July 29, 2016.

(g) For new or reconstructed affected sources (as defined in §63.7490), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in §63.7515(d) following the initial compliance date specified in §63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in §63.7515(d).

(h) For affected sources (as defined in §63.7490) that ceased burning solid waste consistent with §63.7495(e) and for which the initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. 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 an existing EGU that becomes subject after January 31, 2016, you must demonstrate compliance within 180 days after becoming an affected source.

(j) For existing affected sources (as defined in §63.7490) that have not operated between the effective date of the rule and the compliance date that is specified for your source in §63.7495, you must complete the initial compliance demonstration, if subject to the emission limits in Table 2 to this subpart, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart. You must complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than 30 days after the re-start of the affected source and, if applicable, complete the one-time energy assessment specified in Table 3 to this subpart, no later than the compliance date specified in §63.7495.

(k) For affected sources, as defined in §63.7490, that switch subcategories consistent with §63.7545(h) after the initial compliance date, you must demonstrate compliance within 60 days of the effective date of the switch, unless you had previously conducted your compliance demonstration for this subcategory within the previous 12 months.


§63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?

(a) You must conduct all applicable performance tests according to §63.7520 on an annual basis, except as specified in paragraphs (b) through (e), (g), and (h) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e), (g), and (h) of this section.

(b) If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under §63.7522, you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM.

(c) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, you must conduct annual performance
tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart).

(d) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to §63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in §63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later.

(e) If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, you must conduct a monthly fuel analysis according to §63.7521 for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in §63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply.

(f) You must report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to §63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in §63.7550.

(g) For affected sources (as defined in §63.7490) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, you must complete the subsequent compliance demonstration, if subject to the emission limits in Tables 1, 2, or 11 through 13 to this subpart, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart. You must complete a subsequent tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) and the schedule described in §63.7540(a)(13) for units that are not operating at the time of their scheduled tune-up.

(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory and you combust ultra-low sulfur liquid fuel, you do not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Tables 1 or 2 of this subpart providing you demonstrate ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If you intend to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, you must conduct new performance tests within 60 days of burning the new fuel type.

(i) If you operate a CO CEMS that meets the Performance Specifications outlined in §63.7525(a)(3) of this subpart to demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you are not required to conduct CO performance tests and are not subject to the oxygen concentration operating limit requirement specified in §63.7510(a).


§63.7520 What stack tests and procedures must I use?

(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific stack test plan according to the requirements in §63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process.
heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and you must demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 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 at 40 CFR part 60, appendix A-7 of this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates.

(f) Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7166, Jan. 31, 2013]

§63.7521 What fuel analyses, fuel specification, and procedures must I use?

(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, you must conduct fuel analyses for mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. 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, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section.

(b) You must develop a site-specific fuel monitoring plan according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section, if you are required to conduct fuel analyses as specified in §63.7510.

(1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, you must submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in §63.7510.

(2) You must include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan.
(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each anticipated fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each anticipated fuel type, the analytical methods from Table 6, with the expected minimum detection levels, to be used for the measurement of chlorine or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) You must obtain composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. At a minimum, for demonstrating initial compliance by fuel analysis, you must obtain three composite samples. For monthly fuel analyses, at a minimum, you must obtain a single composite sample. For fuel analyses as part of a performance stack test, as specified in §63.7510(a), you must obtain a composite fuel sample during each performance test run.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. You must collect all the material (fines and coarse) in the full cross-section. You must transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal one-hour intervals during the testing period for sampling during performance stack testing.

(2) If sampling from a fuel pile or truck, you must collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, you must select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, you must dig into the pile to a uniform depth of approximately 18 inches. You must insert a clean shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling; use the same shovel to collect all samples.

(iii) You must transfer all samples to a clean plastic bag for further processing.

(d) You must prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) You must thoroughly mix and pour the entire composite sample over a clean plastic sheet.

(2) You must break large sample pieces (e.g., larger than 3 inches) into smaller sizes.
(3) You must make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) You must separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, you must repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) You must grind the sample in a mill.

(7) You must use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) You must determine the concentration of pollutants in the fuel (mercury and/or chlorine and/or TSM) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart, for use in Equations 7, 8, and 9 of this subpart.

(f) To demonstrate that a gaseous fuel other than natural gas or refinery gas qualifies as an other gas 1 fuel, as defined in §63.7575, you must conduct a fuel specification analyses for mercury according to the procedures in paragraphs (g) through (i) of this section and Table 6 to this subpart, as applicable, except as specified in paragraph (f)(1) through (4) of this section, or as an alternative where fuel specification analysis is not practical, you must measure mercury concentration in the exhaust gas when firing only the gaseous fuel to be demonstrated as an other gas 1 fuel in the boiler or process heater according to the procedures in Table 6 to this subpart.

(1) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for natural gas or refinery gas.

(2) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for gaseous fuels that are subject to another subpart of this part, part 60, part 61, or part 65.

(3) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section on gaseous fuels for units that are complying with the limits for units designed to burn gas 2 (other) fuels.

(4) You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for gas streams directly derived from natural gas at natural gas production sites or natural gas plants.

(g) You must develop a site-specific fuel analysis plan for other gas 1 fuels according to the following procedures and requirements in paragraphs (g)(1) and (2) of this section.

(1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, you must submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in §63.7510.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all gaseous fuel types other than those exempted from fuel specification analysis under (f)(1) through (3) of this section anticipated to be burned in each boiler or process heater.

(ii) For each anticipated fuel type, the identification of whether you or a fuel supplier will be conducting the fuel specification analysis.

(iii) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the samples if your procedures are different from the sampling methods contained in Table 6 to this subpart. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types. If multiple boilers or process heaters are fueled by a common fuel stream it is permissible to conduct a single gas specification at the common point of gas distribution.
(iv) For each anticipated fuel type, the analytical methods from Table 6 to this subpart, with the expected minimum detection levels, to be used for the measurement of mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 to this subpart shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart. When using a fuel supplier's fuel analysis, the owner or operator is not required to submit the information in §63.7521(g)(2)(iii).

(h) You must obtain a single fuel sample for each fuel type for fuel specification of gaseous fuels.

(i) You must determine the concentration in the fuel of mercury, in units of microgram per cubic meter, dry basis, of each sample for each other gas 1 fuel type according to the procedures in Table 6 to this subpart.


§63.7522 Can I use emissions averaging to comply with this subpart?

(a) As an alternative to meeting the requirements of §63.7500 for PM (or TSM), HCl, or mercury on a boiler or process heater-specific basis, if you have more than one existing boiler or process heater in any subcategories located at your facility, you may demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this section. You may not include new boilers or process heaters in an emissions average.

(b) For a group of two or more existing boilers or process heaters in the same subcategory that each vent to a separate stack, you may average PM (or TSM), HCl, or mercury emissions among existing units to demonstrate compliance with the limits in Table 2 to this subpart as specified in paragraph (b)(1) through (3) of this section, if you satisfy the requirements in paragraphs (c) through (g) of this section.

(1) You may average units using a CEMS or PM CPMS for demonstrating compliance.

(2) For mercury and HCl, averaging is allowed as follows:

(i) You may average among units in any of the solid fuel subcategories.

(ii) You may average among units in any of the liquid fuel subcategories.

(iii) You may average among units in a subcategory of units designed to burn gas 2 (other) fuels.

(iv) You may not average across the units designed to burn liquid, units designed to burn solid fuel, and units designed to burn gas 2 (other) subcategories.

(3) For PM (or TSM), averaging is only allowed between units within each of the following subcategories and you may not average across subcategories:

(i) Units designed to burn coal/solid fossil fuel.

(ii) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solids.

(iii) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solids.

(iv) Fluidized bed units designed to burn biomass/bio-based solid.
(v) Suspension burners designed to burn biomass/bio-based solid.

(vi) Dutch ovens/pile burners designed to burn biomass/bio-based solid.

(vii) Fuel Cells designed to burn biomass/bio-based solid.

(viii) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.

(ix) Units designed to burn heavy liquid fuel.

(x) Units designed to burn light liquid fuel.

(xi) Units designed to burn liquid fuel that are non-continental units.

(xii) Units designed to burn gas 2 (other) gases.

(c) For each existing boiler or process heater in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on April 1, 2013 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on April 1, 2013.

(d) The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must not exceed 90 percent of the limits in Table 2 to this subpart at all times the affected units are subject to numeric emission limits following the compliance date specified in §63.7495.

(e) You must demonstrate initial compliance according to paragraph (e)(1) or (2) of this section using the maximum rated heat input capacity or maximum steam generation capacity of each unit and the results of the initial performance tests or fuel analysis.

(1) You must use Equation 1a or 1b or 1c of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option for that pollutant do not exceed the emission limits in Table 2 to this subpart. Use Equation 1a if you are complying with the emission limits on a heat input basis, use Equation 1b if you are complying with the emission limits on a steam generation (output) basis, and use Equation 1c if you are complying with the emission limits on a electric generation (output) basis.

\[
AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} \left( \frac{Er \times Hm}{n \times Hm} \right) = \text{(Eq. 1a)}
\]

Where:

\( AveWeightedEmissions \) = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.

\( Er \) = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c).

\( Hm \) = Maximum rated heat input capacity of unit, i, in units of million Btu per hour.

\( n \) = Number of units participating in the emissions averaging option.

\( 1.1 \) = Required discount factor.
Where:

\[ \text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times So)}{\sum_{i=1}^{n} So} \quad (\text{Eq. 1b}) \]

\[ \text{AveWeightedEmissions} = \text{Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output.} \]

\[ Er = \text{Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c). If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, Eadj, determined according to §63.7533 for that unit.} \]

\[ So = \text{Maximum steam output capacity of unit, i, in units of million Btu per hour, as defined in §63.7575.} \]

\[ n = \text{Number of units participating in the emissions averaging option.} \]

\[ 1.1 = \text{Required discount factor.} \]

\[ \text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times Eo)}{\sum_{i=1}^{n} Eo} \quad (\text{Eq. 1c}) \]

\[ \text{Where:} \]

\[ \text{AveWeightedEmissions} = \text{Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour.} \]

\[ Er = \text{Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c). If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, Eadj, determined according to §63.7533 for that unit.} \]

\[ Eo = \text{Maximum electric generating output capacity of unit, i, in units of megawatt hour, as defined in §63.7575.} \]

\[ n = \text{Number of units participating in the emissions averaging option.} \]

\[ 1.1 = \text{Required discount factor.} \]

(2) If you are not capable of determining the maximum rated heat input capacity of one or more boilers that generate steam, you may use Equation 2 of this section as an alternative to using Equation 1a of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option do not exceed the emission limits for that pollutant in Table 2 to this subpart that are in pounds per million Btu of heat input.

\[ \text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times Sm \times Cj)}{\sum_{i=1}^{n} (Sm \times Cj)} \quad (\text{Eq. 2}) \]

\[ \text{Where:} \]

\[ \text{AveWeightedEmissions} = \text{Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.} \]
Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c).

Sm = Maximum steam generation capacity by unit, i, in units of pounds per hour.

Cfi = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for unit, i.

1.1 = Required discount factor.

(f) After the initial compliance demonstration described in paragraph (e) of this section, you must demonstrate compliance on a monthly basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) through (3) of this section. The first monthly period begins on the compliance date specified in §63.7495. If the affected source elects to collect monthly data for up the 11 months preceding the first monthly period, these additional data points can be used to compute the 12-month rolling average in paragraph (f)(3) of this section.

(1) For each calendar month, you must use Equation 3a or 3b or 3c of this section to calculate the average weighted emission rate for that month. Use Equation 3a and the actual heat input for the month for each existing unit participating in the emissions averaging option if you are complying with emission limits on a heat input basis. Use Equation 3b and the actual steam generation for the month if you are complying with the emission limits on a steam generation (output) basis. Use Equation 3c and the actual electrical generation for the month if you are complying with the emission limits on an electrical generation (output) basis.

\[
\text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times Hb) + \sum_{i=1}^{n} Hb}{n} \quad \text{(Eq. 3a)}
\]

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.

Hb = The heat input for that calendar month to unit, i, in units of million Btu.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

\[
\text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times So) + \sum_{i=1}^{n} So}{n} \quad \text{(Eq. 3b)}
\]

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit...
According to §63.7533, use the adjusted emission level for that unit, $E_{adj}$, determined according to §63.7533 for that unit.

$S_o =$ The steam output for that calendar month from unit, $i$, in units of million Btu, as defined in §63.7575.

$n =$ Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$\text{AveWeightedEmissions} = 1.1 \times \sum_{i=1}^{n} \left( Er \times Eo \right) + \sum_{i=1}^{n} Eo \quad (\text{Eq. 3a})$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour, for that calendar month.

$Er =$ Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, $i$, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, $E_{adj}$, determined according to §63.7533 for that unit.

$Eo =$ The electric generating output for that calendar month from unit, $i$, in units of megawatt hour, as defined in §63.7575.

$n =$ Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

(2) If you are not capable of monitoring heat input, you may use Equation 4 of this section as an alternative to using Equation 3a of this section to calculate the average weighted emission rate using the actual steam generation from the boilers participating in the emissions averaging option.

$$\text{AveWeightedEmissions} = 1.1 \times \sum_{i=1}^{n} \left( Er \times Sa \times Cfi \right) + \sum_{i=1}^{n} \left( Sa \times Cfi \right) \quad (\text{Eq. 4})$$

Where:

AveWeightedEmissions = average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input for that calendar month.

$Er =$ Emission rate (as determined during the most recent compliance demonstration of PM (or TSM), HCl, or mercury from unit, $i$, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.

$Sa =$ Actual steam generation for that calendar month by boiler, $i$, in units of pounds.

$Cfi =$ Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for boiler, $i$.

1.1 = Required discount factor.
(3) Until 12 monthly weighted average emission rates have been accumulated, calculate and report only the average weighted emission rate determined under paragraph (f)(1) or (2) of this section for each calendar month. After 12 monthly weighted average emission rates have been accumulated, for each subsequent calendar month, use Equation 5 of this section to calculate the 12-month rolling average of the monthly weighted average emission rates for the current calendar month and the previous 11 calendar months.

\[ E_{avg} = \sum_{i=1}^{12} E_{Ri} \times 12 \]

Where:

\( E_{avg} = 12\)-month rolling average emission rate, (pounds per million Btu heat input)

\( E_{Ri} = \) Monthly weighted average, for calendar month “i” (pounds per million Btu heat input), as calculated by paragraph (f)(1) or (2) of this section.

(g) You must develop, and submit upon request to the applicable Administrator for review and approval, an implementation plan for emission averaging according to the following procedures and requirements in paragraphs (g)(1) through (4) of this section.

(1) If requested, you must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing boilers and process heaters in the averaging group, including for each either the applicable HAP emission level or the control technology installed as of January 31, 2013 and the date on which you are requesting emission averaging to commence;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group;

(iii) The specific control technology or pollution prevention measure to be used for each emission boiler or process heater in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple boilers or process heaters, the owner or operator must identify each boiler or process heater;

(iv) The test plan for the measurement of PM (or TSM), HCl, or mercury emissions in accordance with the requirements in §63.7520;

(v) The operating parameters to be monitored for each control system or device consistent with §63.7500 and Table 4, and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to §63.7525, you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the Administrator, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating load conditions. Following each compliance demonstration and until the next compliance
(3) If submitted upon request, the Administrator shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and

(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.

(4) The applicable Administrator shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing unit in the same subcategories.

(h) For a group of two or more existing affected units, each of which vents through a single common stack, you may average PM (or TSM), HCl, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to this subpart if you satisfy the requirements in paragraph (i) or (j) of this section.

(i) For a group of two or more existing units in the same subcategory, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit.

(j) For all other groups of units subject to the common stack requirements of paragraph (h) of this section, including situations where the exhaust of affected units are each individually controlled and then sent to a common stack, the owner or operator may elect to:

(1) Conduct performance tests according to procedures specified in §63.7520 in the common stack if affected units from other subcategories vent to the common stack. The emission limits that the group must comply with are determined by the use of Equation 6 of this section.

\[ E_n = \sum_{i=1}^{n} (E_{li} \times H_i) / \sum_{i=1}^{n} H_i \]  

(Eq. 6)

Where:

\( E_n \) = HAP emission limit, pounds per million British thermal units (lb/MMBtu) or parts per million (ppm).

\( E_{li} \) = Appropriate emission limit from Table 2 to this subpart for unit \( i \), in units of lb/MMBtu or ppm.

\( H_i \) = Heat input from unit \( i \), MMBtu.

(2) Conduct performance tests according to procedures specified in §63.7520 in the common stack. If affected units and non-affected units vent to the common stack, the non-affected units must be shut down or vented to a different stack during the performance test unless the facility determines to demonstrate compliance with the non-affected units venting to the stack; and

(3) Meet the applicable operating limit specified in §63.7540 and Table 8 to this subpart for each emissions control system (except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack).
(k) The common stack of a group of two or more existing boilers or process heaters in the same subcategories subject to paragraph (h) of this section may be treated as a separate stack for purposes of paragraph (b) of this section and included in an emissions averaging group subject to paragraph (b) of this section.


§63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler or process heater is subject to a CO emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must install, operate, and maintain an oxygen analyzer system, as defined in §63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen (or carbon dioxide (CO2)) according to the procedures in paragraphs (a)(1) through (6) of this section.

(1) Install the CO CEMS and oxygen (or CO2) analyzer by the compliance date specified in §63.7495. The CO and oxygen (or CO2) levels shall be monitored at the same location at the outlet of the boiler or process heater. An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the CO emissions limit be determined using CO2 as a diluent correction in place of oxygen at 3 percent. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3 percent oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

(2) To demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you must install, certify, operate, and maintain a CO CEMS and an oxygen analyzer according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B; part 75 of this chapter (if an CO2 analyzer is used); the site-specific monitoring plan developed according to §63.7505(d); and the requirements in §63.7540(a)(8) and paragraph (a) of this section. Any boiler or process heater that has a CO CEMS that is compliant with Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, a site-specific monitoring plan developed according to §63.7505(d), and the requirements in §63.7540(a)(8) and paragraph (a) of this section must use the CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart.

(i) You must conduct a performance evaluation of each CO CEMS according to the requirements in §63.8(e) and according to Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B.

(ii) During each relative accuracy test run of the CO CEMS, you must collect emission data for CO concurrently (or within a 30- to 60-minute period) by both the CO CEMS and by Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4. The relative accuracy testing must be at representative operating conditions.

(iii) You must follow the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of Procedure 1 of appendix F to part 60. The measurement span value of the CO CEMS must be two times the applicable CO emission limit, expressed as a concentration.

(iv) Any CO CEMS that does not comply with §63.7525(a) cannot be used to meet any requirement in this subpart to demonstrate compliance with a CO emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.

(v) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.

(vi) When CO2 is used to correct CO emissions and CO2 is measured on a wet basis, correct for moisture as follows: Install, operate, maintain, and quality assure a continuous moisture monitoring system for measuring and recording the moisture content of the flue gases, in order to correct the measured hourly volumetric flow rates for moisture when calculating CO concentrations. The following continuous moisture monitoring systems are acceptable: A continuous moisture sensor; an oxygen analyzer (or analyzers) capable of measuring O2 both on a wet basis and on a dry basis; or a stack temperature sensor and a moisture look-up table, i.e., a psychrometric chart (for saturated gas streams following wet scrubbers or other demonstrably saturated gas streams, only). The moisture monitoring system shall include as a component the automated data acquisition and handling system (DAHS) for recording and
reporting both the raw data (e.g., hourly average wet-and dry basis O\textsubscript{2} values) and the hourly average values of the stack gas moisture content derived from those data. When a moisture look-up table is used, the moisture monitoring system shall be represented as a single component, the certified DAHS, in the monitoring plan for the unit or common stack.

3. Complete a minimum of one cycle of CO and oxygen (or CO\textsubscript{2}) CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen (or CO\textsubscript{2}) data concurrently. Collect at least four CO and oxygen (or CO\textsubscript{2}) CEMS data values representing 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.

4. Reduce the CO CEMS data as specified in §63.8(g)(2).

5. Calculate one-hour arithmetic averages, corrected to 3 percent oxygen (or corrected to an CO\textsubscript{2} percentage determined to be equivalent to 3 percent oxygen) from each hour of CO CEMS data in parts per million CO concentration. The one-hour arithmetic averages required shall be used to calculate the 30-day or 10-day rolling average emissions. Use Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7 for calculating the average CO concentration from the hourly values.

6. For purposes of collecting CO data, operate the CO CEMS as specified in §63.7535(b). You must use all the data collected during all periods in calculating data averages and assessing compliance, except that you must exclude certain data as specified in §63.7535(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in §63.7535(d).

7. Operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7 to this subpart.

(b) If your boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory or the unit designed to burn heavy liquid subcategory and has an average annual heat input rate greater than 250 MMBtu per hour from solid fossil fuel and/or heavy liquid, and you demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, maintain, and operate a PM CPMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (4) of this section. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, you may choose to use a PM CEMS. If you choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CEMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraph (b)(5) through (8) of this section. For other boilers or process heaters, you may elect to use a PM CPMS or PM CEMS operated in accordance with this section in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, and PM scrubber pressure). Owners of boilers and process heaters who elect to comply with the alternative TSM limit are not required to install a PM CPMS.

1. Install, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with §63.7505(d), the requirements in §63.7540(a)(9), and paragraphs (b)(1)(i) through (iii) of this section.

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of PM in the exhaust gas or representative exhaust gas sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.

(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS must have a documented detection limit of 0.5 milligram per actual cubic meter, or less.

2. For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.
(3) Collect PM CPMS hourly average output data for all boiler or process heater operating hours except as indicated in §63.7535(a) through (d). Express the PM CPMS output as milliamps.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output data collected during all boiler or process heater operating hours.

(5) Install, certify, operate, and maintain your PM CEMS according to the procedures in your approved site-specific monitoring plan developed in accordance with §63.7505(d), the requirements in §63.7540(a)(9), and paragraphs (b)(5)(i) through (iv) of this section.

(i) You shall conduct a performance evaluation of the PM CEMS according to the applicable requirements of §60.8(e), and Performance Specification 11 at 40 CFR part 60, appendix B of this chapter.

(ii) During each PM correlation testing run of the CEMS required by Performance Specification 11 at 40 CFR part 60, appendix B of this chapter, you shall collect PM and oxygen (or carbon dioxide) data concurrently (or within a 30-to-60-minute period) by both the CEMS and conducting performance tests using Method 5 at 40 CFR part 60, appendix A-3 or Method 17 at 40 CFR part 60, appendix A-6 of this chapter.

(iii) You shall perform quarterly accuracy determinations and daily calibration drift tests in accordance with Procedure 2 at 40 CFR part 60, appendix F of this chapter. You must perform Relative Response Audits annually and perform Response Correlation Audits every 3 years.

(iv) Within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data to the EPA by successfully submitting the data electronically into the EPA's Central Data Exchange by using the Electronic Reporting Tool (see http://www.epa.gov/ttn/chief/ert/erttool.html/).

(6) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.

(7) Collect PM CEMS hourly average output data for all boiler or process heater operating hours except as indicated in §63.7535(a) through (d).

(8) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CEMS output data collected during all boiler or process heater operating hours.

(c) If you have an applicable opacity operating limit in this rule, and are not otherwise required or elect to install and operate a PM CPMS, PM CEMS, or a bag leak detection system, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (c)(1) through (7) of this section by the compliance date specified in §63.7495.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to part 60 of this chapter.

(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8(e) and according to Performance Specification 1 at appendix B to part 60 of this chapter.

(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.
Any 6-minute period for which the monitoring system is out of control and data are not available for a required
calculation constitutes a deviation from the monitoring requirements.

(7) You must determine and record all the 6-minute averages (and daily block averages as applicable) collected for
periods during which the COMS is not out of control.

(d) If you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS, you must install,
operate, and maintain each CMS according to the procedures in paragraphs (d)(1) through (5) of this section by the
compliance date specified in §63.7495.

(1) The CPMS must complete a minimum of one cycle of operation every 15-minutes. You must have a minimum of
four successive cycles of operation, one representing each of the four 15-minute periods in an hour, to have a valid
hour of data.

(2) You must operate the monitoring system as specified in §63.7535(b), and comply with the data calculation
requirements specified in §63.7535(c).

(3) Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required
calculation constitutes a deviation from the monitoring requirements. Other situations that constitute a monitoring
deviation are specified in §63.7535(d).

(4) You must determine the 30-day rolling average of all recorded readings, except as provided in §63.7535(c).

(5) You must record the results of each inspection, calibration, and validation check.

(e) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements
in paragraphs (d) and (e)(1) through (4) of this section.

(1) You must install the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) You must use a flow sensor with a measurement sensitivity of no greater than 2 percent of the design flow rate.

(3) You must minimize, consistent with good engineering practices, the effects of swirling flow or abnormal velocity
distributions due to upstream and downstream disturbances.

(4) You must conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at
the time of each performance test but no less frequently than annually.

(f) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the
requirements in paragraphs (d) and (f)(1) through (6) of this section.

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (e.g., PM
scrubber pressure drop).

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion consistent with good
engineering practices.

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1
percent of the pressure monitoring system operating range, whichever is less.

(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed
(e.g., check for pressure tap pluggage daily).
(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(6) If at any time the measured pressure exceeds the manufacturer’s specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(g) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (d) and (g)(1) through (4) of this section.

(1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Calibrate the pH monitoring system in accordance with your monitoring plan and according to the manufacturer’s instructions. Clean the pH probe at least once each process operating day. Maintain on-site documentation that your calibration frequency is sufficient to maintain the specified accuracy of your device.

(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(h) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator (ESP) operated with a wet scrubber, you must meet the requirements in paragraphs (h)(1) and (2) of this section.

(1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates.

(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(i) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (d) and (i)(1) through (2) of this section.

(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(j) If you are not required to use a PM CPMS and elect to 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 (j)(1) through (6) of this section.

(1) You must install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute PM loadings for each exhaust stack, roof vent, or compartment (e.g., for a positive pressure fabric filter) of the fabric filter.

(2) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA-454/R-98-015 (incorporated by reference, see §63.14).

(3) Use a bag leak detection system certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) Use a bag leak detection system equipped with a device to record continuously the output signal from the sensor.
(5) Use a bag leak detection system equipped with a system that will alert plant operating personnel when an increase in relative PM emissions over a preset level is detected. The alert must easily recognizable (e.g., heard or seen) by plant operating personnel.

(6) Where multiple bag leak detectors are required, the system's instrumentation and alert may be shared among detectors.

(k) For each unit that meets the definition of limited-use boiler or process heater, you must keep fuel use records for the days the boiler or process heater was operating.

(l) For each unit for which you decide to demonstrate compliance with the mercury or HCl emissions limits in Tables 1 or 2 or 11 through 13 of this subpart by use of a CEMS for mercury or HCl, you must install, certify, maintain, and operate a CEMS measuring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (l)(1) through (8) of this section. For HCl, this option for an affected unit takes effect on the date a final performance specification for a HCl CEMS is published in the Federal Register or the date of approval of a site-specific monitoring plan.

(1) Notify the Administrator one month before starting use of the CEMS, and notify the Administrator one month before stopping use of the CEMS.

(2) Each CEMS shall be installed, certified, operated, and maintained according to the requirements in §63.7540(a)(14) for a mercury CEMS and §63.7540(a)(15) for a HCl CEMS.

(3) For a new unit, you must complete the initial performance evaluation of the CEMS by the latest of the dates specified in paragraph (l)(3)(i) through (iii) of this section.

(i) No later than July 30, 2013.

(ii) No later 180 days after the date of initial startup.

(iii) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance.

(4) For an existing unit, you must complete the initial performance evaluation by the latter of the two dates specified in paragraph (l)(4)(i) and (ii) of this section.

(i) No later than July 29, 2016.

(ii) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance.

(5) Compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates using the continuous monitoring system outlet data. The 30-day rolling arithmetic average emission rate (lb/MMBtu) shall be calculated using the equations in EPA Reference Method 19 at 40 CFR part 60, appendix A-7, but substituting the mercury or HCl concentration for the pollutant concentrations normally used in Method 19.

(6) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis. Collect 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.

(7) The one-hour arithmetic averages required shall be expressed in lb/MMBtu and shall be used to calculate the boiler 30-day and 10-day rolling average emissions.

(8) You are allowed to substitute the use of the PM, mercury or HCl CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with the PM,
mercury or HCl emissions limit, and if you are using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, you are allowed to substitute the use of a sulfur dioxide (SO2) CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with HCl emissions limit.

(m) If your unit is subject to a HCl emission limit in Tables 1, 2, or 11 through 13 of this subpart and you have an acid gas wet scrubber or dry sorbent injection control technology and you elect to use an SO2 CEMS to demonstrate continuous compliance with the HCl emission limit, you must install the monitor at the outlet of the boiler or process heater, downstream of all emission control devices, and you must install, certify, operate, and maintain the CEMS according to either part 60 or part 75 of this chapter.

(1) The SO2 CEMS must be installed by the compliance date specified in §63.7495.

(2) For on-going quality assurance (QA), the SO2 CEMS must meet either the applicable daily and quarterly requirements in Procedure 1 of appendix F of part 60 or the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO2 CEMS has a span value of 30 ppm or less.

(3) For a new unit, the initial performance evaluation shall be completed no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, the initial performance evaluation shall be completed no later than July 29, 2016.

(4) For purposes of collecting SO2 data, you must operate the SO2 CEMS as specified in §63.7535(b). You must use all the data collected during all periods in calculating data averages and assessing compliance, except that you must exclude certain data as specified in §63.7535(c). Periods when SO2 data are unavailable may constitute monitoring deviations as specified in §63.7535(d).

(5) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis.

(6) Use only unadjusted, quality-assured SO2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO2 data and do not use part 75 substitute data values.


§63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to §63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by §63.7510(a)(2). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to §63.7525.

(b) If you demonstrate compliance through performance stack testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in §63.7520, Table 7 to this subpart, and paragraph (b)(4) of this section, as applicable. You must also conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) through (3) of this section, as applicable, and as specified in §63.7510(a)(2). (Note that §63.7510(a)(2) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

(1) You must establish the maximum chlorine fuel input (Clinput) during the initial fuel analysis according to the procedures in paragraphs (b)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.
(ii) During the fuel analysis for hydrogen chloride, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (Ci).

(iii) You must establish a maximum chlorine input level using Equation 7 of this section.

\[
Cl_{input} = \sum_{i=1}^{n}(Ci \times Qi) \quad (\text{Eq. 7})
\]

Where:

\( Cl_{input} \) = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

\( Ci \) = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.

\( Qi \) = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of “1” for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

\( n \) = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) You must establish the maximum mercury fuel input level (Mercuryinput) during the initial fuel analysis using the procedures in paragraphs (b)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned (Qi) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HG\( i \)).

(iii) You must establish a maximum mercury input level using Equation 8 of this section.

\[
Mercury_{input} = \sum_{i=1}^{n}(HG_i \times Qi) \quad (\text{Eq. 8})
\]

Where:

\( Mercury_{input} \) = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

\( HG_i \) = Arithmetic average concentration of mercury in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.

\( Qi \) = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content during the initial compliance test. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of “1” for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

\( n \) = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.
(3) If you opt to comply with the alternative TSM limit, you must establish the maximum TSM fuel input (TSM\text{input}) for solid or liquid fuels during the initial fuel analysis according to the procedures in paragraphs (b)(3)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the fuel analysis for TSM, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of TSM, and the average TSM concentration of each fuel type burned (TSM\text{i}).

(iii) You must establish a maximum TSM input level using Equation 9 of this section.

$$TSM\text{input} = \sum_{i=1}^{n} (TSM\text{i} \times Qi) \quad \text{(Eq. 9)}$$

Where:

- TSM\text{input} = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.
- TSM\text{i} = Arithmetic average concentration of TSM in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.
- Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of TSM during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of “1” for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.
- n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(4) You must establish parameter operating limits according to paragraphs (b)(4)(i) through (ix) of this section. As indicated in Table 4 to this subpart, you are not required to establish and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter.

(i) For a wet acid gas scrubber, you must establish the minimum scrubber effluent pH and liquid flow rate as defined in §63.7575, as your operating limits during the performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for HCl and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flow rate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate operating limit at the higher of the minimum values established during the performance tests.

(ii) For any particulate control device (e.g., ESP, particulate wet scrubber, fabric filter) for which you use a PM CPMS, you must establish your PM CPMS operating limit and determine compliance with it according to paragraphs (b)(4)(ii)(A) through (F) of this section.

(A) Determine your operating limit as the average PM CPMS output value recorded during the most recent performance test run demonstrating compliance with the filterable PM emission limit or at the PM CPMS output value corresponding to 75 percent of the emission limit if your PM performance test demonstrates compliance below 75 percent of the emission limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.
(1) Your PM CPMS must provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.

(2) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit.

(3) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(B) If the average of your three PM performance test runs are below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in paragraphs (b)(4)(ii)(B)(1) through (4) of this section.

(1) Determine your instrument zero output with one of the following procedures:

(i) Zero point data for in-situ instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(ii) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(iii) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(iv) If none of the steps in paragraphs (b)(4)(ii)(B)(1) through (iii) of this section are possible, you must use a zero output value provided by the manufacturer.

(2) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 10.

\[
\bar{X} = \frac{1}{n} \sum_{i=1}^{n} X_i, \quad \bar{Y} = \frac{1}{n} \sum_{i=1}^{n} Y_i \quad \text{(Eq. 10)}
\]

Where:

\(X_i\) = the PM CPMS data points for the three runs constituting the performance test,

\(Y_i\) = the PM concentration value for the three runs constituting the performance test, and

\(n\) = the number of data points.

(3) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run average PM concentration from your three compliance tests, determine a relationship of lb/MMBtu per milliamp with equation 11.

\[
R = \frac{Y}{X - z} \quad \text{(Eq. 11)}
\]
Where:

\[ R = \text{the relative lb/MMBtu per milliamp for your PM CPMS}, \]

\[ Y_1 = \text{the three run average lb/MMBtu PM concentration}, \]

\[ X_1 = \text{the three run average milliamp output from you PM CPMS}, \] and

\[ z = \text{the milliamp equivalent of your instrument zero determined from (B)(i)}. \]

(4) Determine your source specific 30-day rolling average operating limit using the lb/MMBtu per milliamp value from Equation 11 in equation 12, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.

\[ \Phi_t = z + \frac{0.75 L}{R} \quad (\text{Eq. 12}) \]

Where:

\[ \Phi_t = \text{the operating limit for your PM CPMS on a 30-day rolling average, in milliamps}. \]

\[ L = \text{your source emission limit expressed in lb/MMBtu}, \]

\[ z = \text{your instrument zero in milliamps, determined from (B)(i)}, \] and

\[ R = \text{the relative lb/MMBtu per milliamp for your PM CPMS, from Equation 11}. \]

(C) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your 30-day rolling average operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 13 and you must submit all compliance test and PM CPMS data according to the reporting requirements in paragraph (b)(4)(ii)(F) of this section.

\[ \Phi_n = \frac{1}{n} \sum_{i=1}^{n} X_i \quad (\text{Eq. 13}) \]

Where:

\[ X_i = \text{the PM CPMS data points for all runs i}, \]

\[ n = \text{the number of data points}, \] and

\[ \Phi_n = \text{your site specific operating limit, in milliamps}. \]

(D) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis, updated at the end of each new operating hour. Use Equation 14 to determine the 30-day rolling average.

\[ 30 - \text{day} = \frac{\sum_{i=1}^{n} H_{p_{i}}} {n} \quad (\text{Eq. 14}) \]
Where:

30-day = 30-day average.

Hpvi = is the hourly parameter value for hour i

n = is the number of valid hourly parameter values collected over the previous 30 operating days.

(E) Use EPA Method 5 of appendix A to part 60 of this chapter to determine PM emissions. For each performance test, conduct three separate runs under the conditions that exist when the affected source is operating at the highest load or capacity level reasonably expected to occur. Conduct each test run to collect a minimum sample volume specified in Tables 1, 2, or 11 through 13 to this subpart, as applicable, for determining compliance with a new source limit or an existing source limit. Calculate the average of the results from three runs to determine compliance. You need not determine the PM collected in the impingers (“back half”) of the Method 5 particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the “back half” for other purposes.

(F) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instrument’s primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

(iii) For a particulate wet scrubber, you must establish the minimum pressure drop and liquid flow rate as defined in §63.7575, as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests.

(iv) For an electrostatic precipitator (ESP) operated with a wet scrubber, you must establish the minimum total secondary electric power input, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (These operating limits do not apply to ESP that are operated as dry controls without a wet scrubber.)

(v) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vi) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vii) The operating limit for boilers or process heaters 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 §63.7525, and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period.

(viii) For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

(ix) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO2 CEMS is to install and operate the SO2 according to the requirements in §63.7525(m) establish a maximum SO2 emission rate equal to the highest hourly average SO2 measurement during the most recent three-run performance test for HCl.
(c) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to §63.7521 and follow the procedures in paragraphs (c)(1) through (5) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided t-statistic test described in Equation 15 of this section.

\[
P_{90} = \text{mean} + (SD \times t) \quad \text{(Eq. 15)}
\]

Where:

\(P_{90}\) = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

\(\text{Mean}\) = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.

\(\text{SD}\) = Standard deviation of the mean of pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu. SD is calculated as the sample standard deviation divided by the square root of the number of samples.

\(t\) = t distribution critical value for 90th percentile \((t_{0.1})\) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a t-Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 16 of this section must not exceed the applicable emission limit for HCl.

\[
HCl = \sum_{i=1}^{n} (Ci_{90} \times Qi \times 1.028) \quad \text{(Eq. 16)}
\]

Where:

\(HCl\) = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

\(Ci_{90}\) = 90th percentile confidence level concentration of chlorine in fuel type, \(i\), in units of pounds per million Btu as calculated according to Equation 15 of this section.

\(Qi\) = Fraction of total heat input from fuel type, \(i\), based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for \(Qi\). For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

\(n\) = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 17 of this section must not exceed the applicable emission limit for mercury.

\[
Mercury = \sum_{i=1}^{n} (Hgi_{90} \times Qi) \quad \text{(Eq. 17)}
\]
Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

\[ H_{gi90} = 90\text{th percentile confidence level concentration of mercury in fuel, } i, \text{ in units of pounds per million Btu as calculated according to Equation 15 of this section.} \]

\[ Q_i = \text{Fraction of total heat input from fuel type, } i, \text{ based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for } Q_i. \text{ For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.} \]

\[ n = \text{Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.} \]

To demonstrate compliance with the applicable emission limit for TSM for solid or liquid fuels, the TSM emission rate that you calculate for your boiler or process heater from solid fuels using Equation 18 of this section must not exceed the applicable emission limit for TSM.

\[ Metals = \sum_{i=1}^{n} (TSM_{i90} \times Q_i) \quad (\text{Eq. 18}) \]

Where:

Metals = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

\[ TSM_{i90} = 90\text{th percentile confidence level concentration of TSM in fuel, } i, \text{ in units of pounds per million Btu as calculated according to Equation 15 of this section.} \]

\[ Q_i = \text{Fraction of total heat input from fuel type, } i, \text{ based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for } Q_i. \text{ For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.} \]

\[ n = \text{Number of different fuel types burned in your boiler or process heater for the mixture that has the highest TSM content.} \]

(d)[Reserved]

(e) You must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 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.

(f) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7545(e).

(g) If you elect to demonstrate that a gaseous fuel meets the specifications of another gas 1 fuel as defined in §63.7575, you must conduct an initial fuel specification analyses according to §63.7521(f) through (i) and according to the frequency listed in §63.7540(c) and maintain records of the results of the testing as outlined in §63.7555(g). For samples where the initial mercury specification has not been exceeded, you will include a signed certification with the Notification of Compliance Status that the initial fuel specification test meets the gas specification outlined in the definition of other gas 1 fuels.

(h) If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to items 5 and 6 of Table 3 of this subpart.
(i) If you opt to comply with the alternative SO₂ CEMS operating limit in Tables 4 and 8 to this subpart, you may do so only if your affected boiler or process heater:

(1) Has a system using wet scrubber or dry sorbent injection and SO₂ CEMS installed on the unit; and

(2) At all times, you operate the wet scrubber or dry sorbent injection for acid gas control on the unit consistent with §63.7500(a)(3); and

(3) You establish a unit-specific maximum SO₂ operating limit by collecting the maximum hourly SO₂ emission rate on the SO₂ CEMS during the paired 3-run test for HCl. The maximum SO₂ operating limit is equal to the highest hourly average SO₂ concentration measured during the HCl performance test.


§63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?

(a) If you elect to comply with the alternative equivalent output-based emission limits, instead of the heat input-based limits listed in Table 2 to this subpart, and you want to take credit for implementing energy conservation measures identified in an energy assessment, you may demonstrate compliance using efficiency credits according to the procedures in this section. You may use this compliance approach for an existing affected boiler for demonstrating initial compliance according to §63.7522(e) and for demonstrating monthly compliance according to §63.7522(f). Owners or operators using this compliance approach must establish an emissions benchmark, calculate and document the efficiency credits, develop an Implementation Plan, comply with the general reporting requirements, and apply the efficiency credit according to the procedures in paragraphs (b) through (f) of this section. You cannot use this compliance approach for a new or reconstructed affected boiler. Additional guidance from the Department of Energy on efficiency credits is available at: http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

(b) For each existing affected boiler for which you intend to apply emissions credits, establish a benchmark from which emission reduction credits may be generated by determining the actual annual fuel heat input to the affected boiler before initiation of an energy conservation activity to reduce energy demand (i.e., fuel usage) according to paragraphs (b)(1) through (4) of this section. The benchmark shall be expressed in trillion Btu per year heat input.

(1) The benchmark from which efficiency credits may be generated shall be determined by using the most representative, accurate, and reliable process available for the source. The benchmark shall be established for a one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

(2) Determine the starting point from which to measure progress. Inventory all fuel purchased and generated on-site (off-gases, residues) in physical units (MMBtu, million cubic feet, etc.).

(3) Document all uses of energy from the affected boiler. Use the most recent data available.

(4) Collect non-energy related facility and operational data to normalize, if necessary, the benchmark to current operations, such as building size, operating hours, etc. If possible, use actual data that are current and timely rather than estimated data.

(c) Efficiency credits can be generated if the energy conservation measures were implemented after January 1, 2008 and if sufficient information is available to determine the appropriate value of credits.

(1) The following emission points cannot be used to generate efficiency credits:

(i) Energy conservation measures implemented on or before January 1, 2008, unless the level of energy demand reduction is increased after January 1, 2008, in which case credit will be allowed only for change in demand reduction achieved after January 1, 2008.
(ii) Efficiency credits on shut-down boilers. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to energy conservation measures identified in the energy assessment. In this case, the benchmark established for the affected boiler to which the credits from the shutdown will be applied must be revised to include the benchmark established for the shutdown boiler.

(2) For all points included in calculating emissions credits, the owner or operator shall:

(i) Calculate annual credits for all energy demand points. Use Equation 19 to calculate credits. Energy conservation measures that meet the criteria of paragraph (c)(1) of this section shall not be included, except as specified in paragraph (c)(1)(i) of this section.

(3) Credits are generated by the difference between the benchmark that is established for each affected boiler, and the actual energy demand reductions from energy conservation measures implemented after January 1, 2008. Credits shall be calculated using Equation 19 of this section as follows:

(i) The overall equation for calculating credits is:

\[ ECredits = \sum_{i=1}^{n} EIS_{actual} + EI_{baseline} \]  

Where:

\[ ECredits = \text{Energy Input Savings for all energy conservation measures implemented for an affected boiler, expressed as a decimal fraction of the baseline energy input.} \]

\[ EIS_{actual} = \text{Energy Input Savings for each energy conservation measure, i, implemented for an affected boiler, million Btu per year.} \]

\[ EI_{baseline} = \text{Energy Input baseline for the affected boiler, million Btu per year.} \]

\[ n = \text{Number of energy conservation measures included in the efficiency credit for the affected boiler.} \]

(ii) [Reserved]

(d) The owner or operator shall develop, and submit for approval upon request by the Administrator, an Implementation Plan containing all of the information required in this paragraph for all boilers to be included in an efficiency credit approach. The Implementation Plan shall identify all existing affected boilers to be included in applying the efficiency credits. The Implementation Plan shall include a description of the energy conservation measures implemented and the energy savings generated from each measure and an explanation of the criteria used for determining that savings. If requested, you must submit the implementation plan for efficiency credits to the Administrator for review and approval no later than 180 days before the date on which the facility intends to demonstrate compliance using the efficiency credit approach.

(e) The emissions rate as calculated using Equation 20 of this section from each existing boiler participating in the efficiency credit option must be in compliance with the limits in Table 2 to this subpart at all times the affected unit is subject to numeric emission limits, following the compliance date specified in §63.7495.

(f) You must use Equation 20 of this section to demonstrate initial compliance by demonstrating that the emissions from the affected boiler participating in the efficiency credit compliance approach do not exceed the emission limits in Table 2 to this subpart.

\[ E_{\text{req}} = E_{a} \times (1 - ECredits) \]  

Where:
$E_{adj} = $ Emission level adjusted by applying the efficiency credits earned, lb per million Btu steam output (or lb per MWh) for the affected boiler.

$E_m = $ Emissions measured during the performance test, lb per million Btu steam output (or lb per MWh) for the affected boiler.

ECredits = Efficiency credits from Equation 19 for the affected boiler.

(g) As part of each compliance report submitted as required under §63.7550, you must include documentation that the energy conservation measures implemented continue to generate the credit for use in demonstrating compliance with the emission limits.


Continuous Compliance Requirements

§63.7535  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 §63.7505(d).

(b) You must operate the monitoring system and collect data at all required intervals at all times that each boiler or process heater 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), and required monitoring system quality assurance or 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 recorded 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 control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods of startup and shutdown, when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your semi-annual report.


§63.7540  How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) 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 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests.

(2) As specified in §63.7555(d), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:

   (i) Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.

   (ii) Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, you must recalculate the HCl emission rate using Equation 16 of §63.7530 according to paragraphs (a)(3)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the HCl emission rate.

   (i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

   (ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

   (iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 16 of §63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 7 of §63.7530. If the results of recalculating the maximum chlorine input using Equation 7 of §63.7530 are greater than the maximum chlorine input level established 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 §63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). In recalculating the maximum chlorine input and establishing the new operating limits, you are not required to conduct fuel analyses for and include the fuels described in §63.7510(a)(2)(i) through (iii).

(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 17 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.

   (i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

   (ii) You must determine the new mixture of fuels that will have the highest content of mercury.

   (iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 17 of §63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using
Equation 8 of §63.7530. If the results of recalculating the maximum mercury input using Equation 8 of §63.7530 are higher than the maximum mercury input level established 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 §63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(ii) through (iii) when recalculating the mercury emission rate.

(7) 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 alert and complete corrective actions as soon as practical, and operate and maintain the fabric filter system such that the periods which would cause an alert are no 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 alert, the time corrective action was initiated and completed, and a brief description of the cause of the alert and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the conditions exist for an alert. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alert time is counted. If corrective action is required, each alert shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alert time shall be counted as the actual amount of time taken to initiate corrective action.

(8) To demonstrate compliance with the applicable alternative CO CEMS emission limit listed in Tables 1, 2, or 11 through 13 to this subpart, you must meet the requirements in paragraphs (a)(8)(i) through (iv) of this section.

(i) Continuously monitor CO according to §§63.7525(a) and 63.7535.

(ii) Maintain a CO emission level below or at your applicable alternative CO CEMS-based standard in Tables 1 or 2 or 11 through 13 to this subpart at all times the affected unit is subject to numeric emission limits.

(iii) Keep records of CO levels according to §63.7555(b).

(iv) You must record and make available upon request results of CO CEMS performance audits, dates and duration of periods when the CO CEMS is out of control to completion of the corrective actions necessary to return the CO CEMS to operation consistent with your site-specific monitoring plan.

(9) The owner or operator of a boiler or process heater using a PM CPMS or a PM CEMS to meet requirements of this subpart shall install, certify, operate, and maintain the PM CPMS or PM CEMS in accordance with your site-specific monitoring plan as required in §63.7505(d).

(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

(ii) 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;

(iii) 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). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the unit is subject;

(v) 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; and

(vi) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,

(A) 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 or process heater;

(B) A description of any corrective actions taken as a part of the tune-up; and

(C) The type and amount of fuel used over the 12 months prior to the tune-up, 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 used by each unit.

(11) If your boiler or process heater has a heat input capacity of less than 10 million Btu per hour (except as specified in paragraph (a)(12) of this section), you must conduct a biennial tune-up of the boiler or process heater as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance.

(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner 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.

(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

(14) If you are using a CEMS measuring mercury emissions to meet requirements of this subpart you must install, certify, operate, and maintain the mercury CEMS as specified in paragraphs (a)(14)(i) and (ii) of this section.

(i) Operate the mercury CEMS in accordance with performance specification 12A of 40 CFR part 60, appendix B or operate a sorbent trap based integrated monitor in accordance with performance specification 12B of 40 CFR part 60, appendix B. The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in §63.7545(e)(2)(iii) for mercury CEMS or it must be 720 hours if you specified a 720 hour basis in §63.7545(e)(2)(iii) for mercury CEMS. For each day in which the unit operates, you must obtain hourly mercury concentration data, and stack gas volumetric flow rate data.

(ii) If you are using a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 and 12A of 40 CFR part 60, appendix B, and quality assurance procedure 6 of 40 CFR part 60, appendix F.

(15) If you are using a CEMS to measure HCl emissions to meet requirements of this subpart, you must install, certify, operate, and maintain the HCl CEMS as specified in paragraphs (a)(15)(i) and (ii) of this section. This option for an affected unit takes effect on the date a final performance specification for an HCl CEMS is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan.
(i) Operate the continuous emissions monitoring system in accordance with the applicable performance specification in 40 CFR part 60, appendix B. The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in §63.7545(e)(2)(iii) for HCl CEMS or it must be 720 hours if you specified a 720 hour basis in §63.7545(e)(2)(iii) for HCl CEMS. For each day in which the unit operates, you must obtain hourly HCl concentration data, and stack gas volumetric flow rate data.

(ii) If you are using a HCl CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the HCl mass emissions rate to the atmosphere according to the requirements of the applicable performance specification of 40 CFR part 60, appendix B, and the quality assurance procedures of 40 CFR part 60, appendix F.

(16) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 9 of §63.7530. If the results of recalculating the maximum TSM input using Equation 9 of §63.7530 are higher than the maximum total selected input level established 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 §63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.

(17) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 18 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.

(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of TSM.

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 18 of §63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

(18) If you demonstrate continuous PM emissions compliance with a PM CPMS you will use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. You will conduct your performance test using the test method criteria in Table 5 of this subpart. You will use the PM CPMS to demonstrate continuous compliance with this operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(i) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis.

(ii) For any deviation of the 30-day rolling PM CPMS average value from the established operating parameter limit, you must:

(A) Within 48 hours of the deviation, visually inspect the air pollution control device (APCD);

(B) If inspection of the APCD identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(C) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the
CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iii) PM CPMS deviations from the operating limit leading to more than four required performance tests in a 12-month operating period constitute a separate violation of this subpart.

(19) If you choose to comply with the PM filterable emissions limit by using PM CEMS you must install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (a)(19)(i) through (vii) of this section. The compliance limit will be expressed as a 30-day rolling average of the numerical emissions limit value applicable for your unit in Tables 1 or 2 or 11 through 13 of this subpart.

(i) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using test criteria outlined in Table V of this rule. The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).

(ii) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter.

(A) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually.

(B) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years.

(iii) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (v) of this section.

(iv) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler or process heater operating hours.

(v) You must collect data using the PM CEMS at all times the unit is operating and at the intervals specified this paragraph (a), except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.

(vi) You must use all the data collected during all boiler or process heater operating hours in assessing the compliance with your operating limit except:

(A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report;

(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report;

(C) Any data recorded during periods of startup or shutdown.

(vii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 or 11 through 13 to this subpart that apply to you. These instances are deviations from the emission limits or operating limits, respectively, in this subpart. These deviations must be reported according to the requirements in §63.7550.
(c) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must follow the sampling frequency specified in paragraphs (c)(1) through (4) of this section and conduct this sampling according to the procedures in §63.7521(f) through (i).

(1) If the initial mercury constituents in the gaseous fuels are measured to be equal to or less than half of the mercury specification as defined in §63.7575, you do not need to conduct further sampling.

(2) If the initial mercury constituents are greater than half but equal to or less than 75 percent of the mercury specification as defined in §63.7575, you will conduct semi-annual sampling. If 6 consecutive semi-annual fuel analyses demonstrate 50 percent or less of the mercury specification, you do not need to conduct further sampling. If any semi-annual sample exceeds 75 percent of the mercury specification, you must return to monthly sampling for that fuel, until 12 months of fuel analyses again are less than 75 percent of the compliance level.

(3) If the initial mercury constituents are greater than 75 percent of the mercury specification as defined in §63.7575, you will conduct monthly sampling. If 12 consecutive monthly fuel analyses demonstrate 75 percent or less of the mercury specification, you may decrease the fuel analysis frequency to semi-annual for that fuel.

(4) If the initial sample exceeds the mercury specification as defined in §63.7575, each affected boiler or process heater combusting this fuel is not part of the unit designed to burn gas 1 subcategory and must be in compliance with the emission and operating limits for the appropriate subcategory. You may elect to conduct additional monthly sampling while complying with these emissions and operating limits to demonstrate that the fuel qualifies as another gas 1 fuel. If 12 consecutive monthly fuel analyses samples are at or below the mercury specification as defined in §63.7575, each affected boiler or process heater combusting the fuel can elect to switch back into the unit designed to burn gas 1 subcategory until the mercury specification is exceeded.

(d) For startup and shutdown, you must meet the work practice standards according to items 5 and 6 of Table 3 of this subpart.


§63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (5) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing units participating in the emissions averaging option as determined in §63.7522(f) and (g).

(2) You must maintain the applicable opacity limit according to paragraphs (a)(2)(i) and (ii) of this section.

(i) For each existing unit participating in the emissions averaging option that is equipped with a dry control system and not vented to a common stack, maintain opacity at or below the applicable limit.

(ii) For each group of units participating in the emissions averaging option where each unit in the group is equipped with a dry control system and vented to a common stack that does not receive emissions from non-affected units, maintain opacity at or below the applicable limit at the common stack.

(3) For each existing unit participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 30-day rolling average parameter values at or above the operating limits established during the most recent performance test.

(4) For each existing unit participating in the emissions averaging option that has an approved alternative operating parameter, maintain the 30-day rolling average parameter values consistent with the approved monitoring plan.

(5) For each existing unit participating in the emissions averaging option venting to a common stack configuration containing affected units from other subcategories, maintain the appropriate operating limit for each unit as specified in Table 4 to this subpart that applies.
(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (5) of this section is a deviation.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7182, Jan. 31, 2013]

Notification, Reports, and Records

§63.7545 What notifications must I submit and when?

(a) You must submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, you must submit an Initial Notification not later than 120 days after January 31, 2013.

(c) As specified in §63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8) of this section and must be submitted within 60 days of the compliance date specified at §63.7495(b).

(1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.

(2) Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including:

(i) Identification of whether you are complying with the PM emission limit or the alternative TSM emission limit.

(ii) Identification of whether you are complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits,

(iii) Identification of whether you are complying the arithmetic mean of all valid hours of data from the previous 30 operating days or of the previous 720 hours. This identification shall be specified separately for each operating parameter.

(3) A summary of the maximum CO emission levels recorded during the performance test to show that you have met any applicable emission standard in Tables 1, 2, or 11 through 13 to this subpart, if you are not using a CO CEMS to demonstrate compliance.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis.
(5) Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using efficiency credits through energy conservation:

   (i) If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013.

   (ii) [Reserved]

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

(8) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

   (i) “This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR part 63 subpart DDDDD at this site according to the procedures in §63.7540(a)(10)(i) through (vi).”

   (ii) “This facility has had an energy assessment performed according to §63.7530(e).”

   (iii) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: “No secondary materials that are solid waste were combusted in any affected unit.”

(f) If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in §63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in §63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.

   (1) Company name and address.

   (2) Identification of the affected unit.

   (3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

   (4) Type of alternative fuel that you intend to use.

   (5) Dates when the alternative fuel use is expected to begin and end.

   (g) 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, as defined in §63.7490, the location of the source, the boiler(s) or process heater(s) that will commence burning solid waste, and the date of the notice.

   (2) The currently applicable subcategories 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.
(h) If you have switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

1. The name of the owner or operator of the affected source, as defined in §63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.

2. The currently applicable subcategory under this subpart.

3. The date upon which the fuel switch or physical change occurred.


§63.7550 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

1. The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.7495. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in §63.7495.

2. The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

3. Each subsequent semi-annual 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. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.

4. Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

5. For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.
(1) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) of this section, (xiv) and (xvii) of this section, and paragraph (c)(5)(iv) of this section for limited-use boiler or process heater.

(2) If you are complying with the fuel analysis you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (vi), (x), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.

(3) If you are complying with the applicable emissions limit with performance testing you must submit a compliance report with the information in (c)(5)(i) through (iii), (vi), (vii), (viii), (ix), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.

(4) If you are complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (iii), (v), (vi), (xi) through (xiii), (xv) through (xviii), and paragraph (e) of this section.

(5)(i) Company and Facility name and address.

(ii) Process unit information, emissions limitations, and operating parameter limitations.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) The total operating time during the reporting period.

(v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit.

(vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.

(vii) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.

(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 16 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate, using Equation 17 of §63.7530, that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 18 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit...
using Equation 9 of §63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g).

(xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.

(xiii) If a malfunction occurred during the reporting period, the 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 you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction.

(xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

(xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i).

(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values for CEMS (CO, HCl, SO2, and mercury), 10 day rolling average values for CO CEMS when the limit is expressed as a 10 day instead of 30 day rolling average, and the PM CPMS data.

(xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(xviii) For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of §63.7555(d).

(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods if startup and shutdown, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.

(1) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

(2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed.

(e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d).
(1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from).

(2) The date and time 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.

(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 characterization 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's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the source for which there was a deviation.

(9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f)-(g) [Reserved]

(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section.

(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 fuel analyses, following the procedure specified in either paragraph (h)(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 (http://www.epa.gov/ttn/chief/ert/index.html), 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 use of the EPA's ERT or an 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/OAPQS/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 (h)(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 transmitted 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 media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/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 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.

(3) You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.


§63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a)(1) and (2) 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 or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii).

(3) For units in the limited use subcategory, 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 fuel use records for the days the boiler or process heater was operating.

(b) For each CEMS, COMS, and continuous monitoring system you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in §63.10(b)(2)(vii) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in §63.6(h)(7)(i) and (ii).

(3) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped.

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to you.
(d) For each boiler or process heater subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must also keep the applicable records in paragraphs (d)(1) through (11) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) and (2) of this chapter, you must keep a record that documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1) of this chapter. 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 satisfy the definition of processing in §241.2 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 of this chapter, you must keep records documenting that the material is listed as a non-waste under §241.4(a) of this chapter. Units exempt from the incinerator standards under section 129(g)(1) of the Clean Air Act because they are qualifying facilities burning a homogeneous waste stream do not need to maintain the records described in this paragraph (d)(2).

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 16 of §63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 17 of §63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(5) If, consistent with §63.7515(b), you choose to stack test less frequently than annually, you must keep a record that documents that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit (or, in specific instances noted in Tables 1 and 2 or 11 through 13 to this subpart, less than the applicable emission limit), and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(6) Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment.

(7) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(8) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of §63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 18 of §63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning
the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

(9) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

(10) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

(11) For each startup period, for units selecting paragraph (2) of the definition of “startup” in §63.7575 you must maintain records of the time that clean fuel combustion begins; the time you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged.

(12) If you choose to rely on paragraph (2) of the definition of “startup” in §63.7575, for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (e.g., CEMS, PM CPMS, COMS, ESC total secondary electric power input, scrubber pressure drop, scrubber liquid flow rate) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified in paragraphs (d)(12)(i) through (iii) of this section.

(i) For a boiler or process heater with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

(ii) For a boiler or process heater with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

(iii) For a boiler or process heater with a wet scrubber needed for filterable PM control, record the scrubber's liquid flow rate and the pressure drop during each hour of startup.

(13) If you choose to use paragraph (2) of the definition of “startup” in §63.7575 and you find that you are unable to safely engage and operate your PM control(s) within 1 hour of first firing of non-clean fuels, you may choose to rely on paragraph (1) of definition of “startup” in §63.7575 or you may submit to the delegated permitting authority a request for a variance with the PM controls requirement, as described below.

(i) The request shall provide evidence of a documented manufacturer-identified safety issue.

(ii) The request shall provide information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.

(iii) In addition, the request shall contain documentation that:

(A) The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel;

(B) The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and

(C) Identifies with specificity the details of the manufacturer's statement of concern.

(iv) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.

(e) If you elect to average emissions consistent with §63.7522, you must additionally keep a copy of the emission averaging implementation plan required in §63.7522(g), all calculations required under §63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with §63.7541.
(f) If you elect to use efficiency credits from energy conservation measures to demonstrate compliance according to §63.7533, you must keep a copy of the Implementation Plan required in §63.7533(d) and copies of all data and calculations used to establish credits according to §63.7533(b), (c), and (f).

(g) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must maintain monthly records (or at the frequency required by §63.7540(c)) of the calculations and results of the fuel specification for mercury in Table 6.

(h) If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to this subpart, and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under this part, other gas 1 fuel, or gaseous fuel subject to another subpart of this part or part 60, 61, or 65, you must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.


§63.7560 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 on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years.

Other Requirements and Information

§63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§63.7570 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the 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 (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency, however, the EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the emission limits and work practice standards in §63.7500(a) and (b) under §63.6(g), except as specified in §63.7555(d)(13).

(2) Approval of major change to test methods in Table 5 to this subpart under §63.7(e)(2)(ii) and (f) and as defined in §63.90, and alternative analytical methods requested under §63.7521(b)(2).

(3) Approval of major change to monitoring under §63.8(f) and as defined in §63.90, and approval of alternative operating parameters under §§63.7500(a)(2) and 63.7522(g)(2).

(4) Approval of major change to recordkeeping and reporting under §63.10(e) and as defined in §63.90.
§63.7575 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 the previous 240 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating. The 240 hours should be consecutive, but not necessarily continuous if operations were intermittent.

30-day rolling average means the arithmetic mean of the previous 720 hours of valid CO CEMS data. The 720 hours should be consecutive, but not necessarily continuous if operations were intermittent. For parameters other than CO, 30-day rolling average means either the arithmetic mean of all valid hours of data from 30 successive operating days or the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating.

Annual capacity factor means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year and the potential heat input to the boiler or process heater 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.

Average annual heat input rate means total heat input divided by the hours of operation 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.

Benchmark means the fuel heat input for a boiler or process heater for the one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

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 or bio-based solid fuel means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue; wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander 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.

Blast furnace gas fuel-fired boiler or process heater means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total annual gas volume from blast furnace gas.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam 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 are excluded from this definition.

*Boiler system* means the boiler and associated components, such as, the feed water system, the combustion air system, the fuel system (including burners), blowdown system, combustion control systems, steam systems, and condensate return systems.

*Calendar year* means the period between January 1 and December 31, inclusive, for a given year.

*Clean dry biomass* means any biomass-based solid fuel that have not been painted, pigment-stained, or pressure treated, does not contain contaminants at concentrations not normally associated with virgin biomass materials and has a moisture content of less than 20 percent and is not a solid waste.

*Coal* means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by 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 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 (6,000 Btu per pound) on a dry basis.

*Commercial/institutional boiler* means a boiler used in commercial establishments or institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, governmental buildings, 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.

*Cost-effective energy conservation measure* means a measure that is implemented to improve the energy efficiency of the boiler or facility that has a payback (return of investment) period of 2 years or less.

*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 or downtime.

*Deviation* 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.

*Dioxins/furans* means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

*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 §60.14).
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 and process heaters are included in this definition. A dry scrubber is a dry control system.

Dutch oven means a unit having a refractory-walled cell connected to a conventional boiler setting. Fuel materials are introduced through an opening in the roof of the dutch oven and burn in a pile on its floor. Fluidized bed boilers are not part of the dutch oven design category.

Efficiency credit means emission reductions above those required by this subpart. Efficiency credits generated may be used to comply with the emissions limits. Credits may come from pollution prevention projects that result in reduced fuel use by affected units. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to implementation of the energy conservation measures identified in the energy assessment.

Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) 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 MWe 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, 2012.

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 and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (TBlu) per year 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), process heater(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, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour on-site energy assessment.

2. The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of 0.3 to 1.0 TBlu/year 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), process heater(s), and any on-site energy use system(s) accounting for at least 33 percent of the energy (e.g., steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour on-site energy assessment.

3. The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity greater than 1.0 TBlu/year will be up to 24 on-site technical labor hours in length for the first TBlu/yr plus 8 on-site technical labor hours for every additional 1.0 TBlu/yr not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 20 percent of the energy (e.g., steam, process heat, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour on-site energy assessment.

4. The on-site energy use systems serving as the basis for the percent of affected boiler(s) and process heater(s) energy production 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 practices means the 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.

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 includes the following systems located on-site that use energy (steam, hot water, or electricity) provided by the affected boiler or process heater: 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 other systems that use steam, hot water, process heat, or electricity provided by the affected boiler or process heater. Energy use systems are only those systems using energy clearly produced by affected boilers and process heaters.

Equivalent means the following only as this term is used in Table 6 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 metals (especially the mercury, selenium, or arsenic) using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing these metals. 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 metals concentration mathematically adjusted to a dry basis.

6. An equivalent pollutant (mercury, HCl) determinative or analytical 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 and has a published detection limit equal or lower than the methods listed in Table 6 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 boiler with an integrated fluidized bed heat exchanger means a boiler utilizing a fluidized bed combustion where the entire tube surface area is located outside of the furnace section at the exit of the cyclone section and exposed to the flue gas stream for conductive heat transfer. This design applies only to boilers in the unit designed to burn coal/solid fossil fuel subcategory that fire coal refuse.
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 cell means a boiler type in which the fuel is dropped onto suspended fixed grates and is fired in a pile. The refractory-lined fuel cell uses combustion air preheating and positioning of secondary and tertiary air injection ports to improve boiler efficiency. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, and suspension burners are not part of the fuel cell subcategory.

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 fuel includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas and process gases that are regulated under another subpart of this part, or part 60, part 61, or part 65 of this chapter, are exempted from this definition.

Heat input means heat derived from combustion of fuel in a boiler or process heater 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, etc.

Heavy liquid includes residual oil and any other liquid fuel not classified as a light liquid.

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.

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/bio-based solid fuel and 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 MMBtu/hr heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on demand hot water.

Hybrid suspension grate boiler means a boiler designed with air distributors to spread the fuel material over the entire width and depth of the boiler combustion zone. The biomass fuel combusted in these units exceeds a moisture content of 40 percent on an as-fired annual heat input basis as demonstrated by monthly fuel analysis. The drying and much of the combustion of the fuel takes place in suspension, and the combustion is completed on the grate or floor of the boiler. Fluidized bed, dutch oven, and pile burner designs are not part of the hybrid suspension grate boiler design category.

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Light liquid includes distillate oil, biodiesel, or vegetable oil.

Limited-use boiler or process heater means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

Liquid fuel includes, but is not limited to, light liquid, heavy liquid, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, biodiesel, and vegetable oil.

Load fraction means the actual heat input of a boiler or process heater 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 and process heaters that co-fire natural gas or refinery 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).

Major source for oil and natural gas production facilities, 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) Emissions from processes, operations, or equipment that are not part of the same facility, as defined in this section, shall not be aggregated; and

(3) For facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions shall be aggregated for a major source determination. For facilities that are not production field facilities, HAP emissions from all HAP emission units shall be aggregated for a major source determination.

Metal process furnaces are a subcategory of process heaters, as defined in this subpart, which include natural gas-fired annealing furnaces, preheat furnaces, reheat furnaces, aging furnaces, heat treat furnaces, and homogenizing furnaces.

Million Btu (MMBtu) means one million British thermal units.

Minimum activated carbon injection rate means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum oxygen level means the lowest hourly average oxygen level measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum pressure drop means the lowest hourly average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum scrubber effluent pH means the lowest hourly average sorbent liquid pH measured at the inlet to the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

Minimum scrubber liquid flow rate means the lowest hourly average liquid flow rate (e.g., to the PM scrubber or to the acid gas scrubber) measured according to Table 7 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 7 to this subpart during the most recent performance 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 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion not using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, 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 7 to this subpart during the most recent performance 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 in ASTM D1835 (incorporated by reference, see §63.14); 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 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.

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 or process heater unit. It is not necessary for fuel to be combusted for the entire 24-hour period. For calculating rolling average emissions, an operating day does not include the hours of operation during startup or shutdown.

Other combustor means a unit designed to burn solid fuel that is not classified as a dutch oven, fluidized bed, fuel cell, hybrid suspension grate boiler, pulverized coal boiler, stoker, sloped grate, or suspension boiler as defined in this subpart.

Other gas 1 fuel means a gaseous fuel that is not natural gas or refinery gas and does not exceed a maximum concentration of 40 micrograms/cubic meters of mercury.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems. The source owner or operator must install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

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 CO 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.

Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler or process heater 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.

Pile burner means a boiler design incorporating a design where the anticipated biomass fuel has a high relative moisture content. Grates serve to support the fuel, and underfire air flowing up through the grates provides oxygen for
combustion, cools the grates, promotes turbulence in the fuel bed, and fires the fuel. The most common form of pile burning is the dutch oven.

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. A device combusting solid waste, as defined in §241.3 of this chapter, is not a process heater 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. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves. Waste heat process heaters are excluded from this definition.

Pulverized coal boiler means a boiler in which pulverized coal or other solid fossil fuel is introduced into an air stream that carries the coal to the combustion chamber of the boiler where it is fired in suspension.

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.

(vi) 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.

Refinery gas means any gas that is generated at a petroleum refinery and is combusted. Refinery gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Refinery gas includes gases generated from other facilities when that gas is combined and combusted in any proportion with gas generated at a refinery.

Regulated gas stream means an offgas stream that is routed to a boiler or process heater 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.

Rolling average means the average of all data collected during the applicable averaging period. For demonstration of compliance with a CO CEMS-based emission limit based on CO concentration a 30-day (10-day) rolling average is comprised of the average of all the hourly average concentrations over the previous 720 (240) operating hours calculated each operating day. To demonstrate compliance on a 30-day rolling average basis for parameters other than CO, you must indicate the basis of the 30-day rolling average period you are using for compliance, as discussed in §63.7545(e)(2)(iii). If you indicate the 30 operating day basis, you must calculate a new average value each operating day and shall include the measured hourly values for the preceding 30 operating days. If you select the 720 operating hours basis, you must average of all the hourly average concentrations over the previous 720 operating hours calculated each operating day.

Secondary material means the material as defined in §241.2 of this chapter.

Shutdown means the period in which cessation of operation of a boiler or process heater is initiated for any purpose. Shutdown begins when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer supplies useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater.

Sloped grate means a unit where the solid fuel is fed to the top of the grate from where it slides downwards; while sliding the fuel first dries and then ignites and burns. The ash is deposited at the bottom of the grate. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a sloped grate design.

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 or process heater for the purpose of supplying useful thermal energy 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 from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose, or

(2) The period in which operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier.

Steam output means:

(1) For a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output,

(2) For a boiler that cogenerates process steam and electricity (also known as combined heat and power), the total energy output, which is the sum of the energy content of the steam exiting the turbine and sent to process in MMBtu and the energy of the electricity generated converted to MMBtu at a rate of 10,000 Btu per kilowatt-hour generated (10 MMBtu per megawatt-hour), and

(3) For a boiler that generates only electricity, the alternate output-based emission limits would be the appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input (lb per MWh).

(4) For a boiler that performs multiple functions and produces steam to be used for any combination of paragraphs (1), (2), and (3) of this definition that includes electricity generation of paragraph (3) of this definition, the total energy output, in terms of MMBtu of steam output, is the sum of the energy content of steam sent directly to the process and/or used for heating ($S_1$), the energy content of turbine steam sent to process plus energy in electricity according to paragraph (2) of this definition ($S_2$), and the energy content of electricity generated by a electricity only turbine as paragraph (3) of this definition ($MW_3$) and would be calculated using Equation 21 of this section. In the case of boilers supplying steam to one or more common heaters, $S_1$, $S_2$, and $MW_3$ for each boiler would be calculated based on the its (steam energy) contribution (fraction of total steam energy) to the common heater.

$$SO_m = S_1 + S_2 + (MW_3) \times CF_n$$  \hspace{1cm} (Eq. 21)

Where:

$SO_m$ = Total steam output for multi-function boiler, MMBtu

$S_1$ = Energy content of steam sent directly to the process and/or used for heating, MMBtu

$S_2$ = Energy content of turbine steam sent to the process plus energy in electricity according to (2) above, MMBtu

$MW_3$ = Electricity generated according to paragraph (3) of this definition, MWh

$CF_n$ = Conversion factor for the appropriate subcategory for converting electricity generated according to paragraph (3) of this definition to equivalent steam energy, MMBtu/MWh

$CF_n$ for emission limits for boilers in the unit designed to burn solid fuel subcategory = 10.8

$CF_n$ PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal = 11.7

$CF_n$ PM and CO emission limits for boilers in one of the subcategories of units designed to burn biomass = 12.1
CFn for emission limits for boilers in one of the subcategories of units designed to burn liquid fuel = 11.2

CFn for emission limits for boilers in the unit designed to burn gas 2 (other) subcategory = 6.2

*Stoker* means a unit consisting of a mechanically operated fuel feeding mechanism, a stationary or moving grate to support the burning of fuel and admit under-grate air to the fuel, an overfire air system to complete combustion, and an ash discharge system. This definition of stoker includes air swept stokers. There are two general types of stokers: Underfeed and overfeed. Overfeed stokers include mass feed and spreader stokers. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a stoker design.

*Stoker/sloped grate/other unit designed to burn kiln dried biomass* means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and is not in the stoker/sloped grate/other units designed to burn wet biomass subcategory.

*Stoker/sloped grate/other unit designed to burn wet biomass* means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and any of the biomass/bio-based solid fuel combusted in the unit exceeds 20 percent moisture on an annual heat input basis.

*Suspension burner* means a unit designed to fire dry biomass/biobased solid particles in suspension that are conveyed in an airstream to the furnace like pulverized coal. The combustion of the fuel material is completed on a grate or floor below. The biomass/biobased fuel combusted in the unit shall not exceed 20 percent moisture on an annual heat input basis. Fluidized bed, dutch oven, pile burner, and hybrid suspension grate units are not part of the suspension burner subcategory.

*Temporary boiler* means any gaseous or liquid fuel boiler or process heater 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 or process heater is not a temporary boiler or process heater if any one of the following conditions exists:

1. The equipment is attached to a foundation.

2. The boiler or process heater 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 or process heater that replaces a temporary boiler or process heater 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 within the facility but continues to perform the same or similar function and serve the same electricity, process heat, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

*Total selected metals (TSM)* means the sum of the following metallic hazardous air pollutants: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

*Traditional fuel* means the fuel as defined in §241.2 of this chapter.

*Tune-up* means adjustments made to a boiler or process heater in accordance with the procedures outlined in §63.7540(a)(10).

*Ultra low sulfur liquid fuel* means a distillate oil that has less than or equal to 15 ppm sulfur.
Unit designed to burn biomass/bio-based solid subcategory includes any boiler or process heater that burns at least 10 percent biomass or bio-based solids on an annual heat input basis in combination with solid fossil fuels, liquid fuels, or gaseous fuels.

Unit designed to burn coal/solid fossil fuel subcategory includes any boiler or process heater that burns any coal or other solid fossil fuel alone or at least 10 percent coal or other solid fossil fuel on an annual heat input basis in combination with liquid fuels, gaseous fuels, or less than 10 percent biomass and bio-based solids on an annual heat input basis.

Unit designed to burn gas 1 subcategory includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that are not in the unit designed to burn gas 1 subcategory and that burn liquid fuel during periods of gas curtailment or gas supply interruption of any duration are also included in this definition.

Unit designed to burn gas 2 (other) subcategory includes any boiler or process heater that is not in the unit designed to burn gas 1 subcategory and burns any gaseous fuels either alone or in combination with less than 10 percent coal/solid fossil fuel, and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, and no liquid fuels. Gaseous fuel boilers and process heaters that are not in the unit designed to burn gas 1 subcategory and that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that are not in the unit designed to burn gas 1 subcategory and that burn liquid fuel during periods of gas curtailment or gas supply interruption of any duration are also included in this definition.

Unit designed to burn heavy liquid subcategory means a unit in the unit designed to burn liquid subcategory where at least 10 percent of the heat input from liquid fuels on an annual heat input basis comes from heavy liquids.

Unit designed to burn light liquid subcategory means a unit in the unit designed to burn liquid subcategory that is not part of the unit designed to burn heavy liquid subcategory.

Unit designed to burn liquid subcategory includes any boiler or process heater that burns any liquid fuel, but less than 10 percent coal/solid fossil fuel and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, either alone or in combination with gaseous fuels. Units in the unit design to burn gas 1 or unit designed to burn gas 2 (other) subcategories that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year are not included in this definition. Units in the unit design to burn gas 1 or unit designed to burn gas 2 (other) subcategories during periods of gas curtailment or gas supply interruption of any duration are also not included in this definition.

Unit designed to burn liquid fuel that is a non-continental unit means an industrial, commercial, or institutional boiler or process heater meeting the definition of the unit designed to burn liquid subcategory located in the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Unit designed to burn solid fuel subcategory means any boiler or process heater that burns only solid fuels or at least 10 percent solid fuel on an annual heat input basis in combination with liquid fuels or gaseous fuels.

Useful thermal energy means energy (i.e., steam, hot water, or process heat) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler or process heater.

Vegetable oil means oils extracted from vegetation.

Voluntary Consensus Standards or 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 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
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.

Waste heat process heater means an enclosed device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat process heaters are also referred to as recuperative process heaters. This definition includes both fired and unfired waste heat process heaters.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater 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, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Table 1 to Subpart DDDDD of Part 63—Emission Limits for New or Reconstructed Boilers and Process Heaters

As stated in §63.7500, you must comply with the following applicable emission limits:

<table>
<thead>
<tr>
<th>If your boiler or process heater is in this subcategory . . .</th>
<th>For the following pollutants . . .</th>
<th>The emissions must not exceed the following emission limits, except during startup and shutdown . . .</th>
<th>Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .</th>
<th>Using this specified sampling volume or test run duration . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Units in all subcategories designed to burn solid fuel.</td>
<td>a. HCl</td>
<td>2.2E-02 lb per MMBtu of heat input</td>
<td>2.5E-02 lb per MMBtu of steam output or 0.28 lb per MWh</td>
<td>For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.</td>
</tr>
<tr>
<td>If your boiler or process heater is in this subcategory</td>
<td>For the following pollutants</td>
<td>The emissions must not exceed the following emission limits, except during startup and shutdown</td>
<td>Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown</td>
<td>Using this specified sampling volume or test run duration</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
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</tr>
<tr>
<td></td>
<td>b. Mercury</td>
<td>8.0E-07 lb per MMBtu of heat input</td>
<td>8.7E-07 lb per MMBtu of steam output or 1.1E-05 lb per MWh</td>
<td>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784, collect a minimum of 4 dscm.</td>
</tr>
<tr>
<td>2. Units designed to burn coal/solid fossil fuel</td>
<td>a. Filterable PM (or TSM)</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)</td>
<td>1.1E-03 lb per MMBtu of steam output or 1.4E-02 lb per MWh; or (2.7E-05 lb per MMBtu of steam output or 2.5E-03 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>3. Pulverized coal boilers designed to burn coal/solid fossil fuel</td>
<td>a. Carbon monoxide (CO) (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>4. Stokers/others designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>5. Fluidized bed units designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1.2E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>7. Stokers/sloped grate/others designed to burn wet biomass fuel</td>
<td>a. CO (or CEMS)</td>
<td>620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>5.8E-01 lb per MMBtu of steam output or 6.8 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>If your boiler or process heater is in this subcategory . . .</td>
<td>For the following pollutants . . .</td>
<td>The emissions must not exceed the following emission limits, except during startup and shutdown . . .</td>
<td>Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .</td>
<td>Using this specified sampling volume or test run duration . . .</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)</td>
<td>3.5E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (2.7E-05 lb per MMBtu of steam output or 3.7E-04 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
<td></td>
</tr>
<tr>
<td>8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel</td>
<td>a. CO</td>
<td>460 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)</td>
<td>3.5E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (4.2E-03 lb per MMBtu of steam output or 5.6E-02 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>9. Fluidized bed units designed to burn biomass/bio-based solids</td>
<td>a. CO (or CEMS)</td>
<td>230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>2.2E-01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>9.8E-03 lb per MMBtu of heat input; or (8.3E-05 lb per MMBtu of heat input)</td>
<td>1.2E-02 lb per MMBtu of steam output or 0.14 lb per MWh; or (1.1E-04 lb per MMBtu of steam output or 1.2E-03 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>10. Suspension burners designed to burn biomass/bio-based solids</td>
<td>a. CO (or CEMS)</td>
<td>2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)</td>
<td>1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)</td>
<td>3.1E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (6.6E-03 lb per MMBtu of steam output or 9.1E-02 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
</tbody>
</table>
If your boiler or process heater is in this subcategory.

For the following pollutants.

The emissions must not exceed the following emission limits, except during startup and shutdown.

Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown.

Using this specified sampling volume or test run duration.

<table>
<thead>
<tr>
<th>11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids</th>
<th>a. CO (or CEMS)</th>
<th>330 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,(^4) 10-day rolling average)</th>
<th>3.5E-01 lb per MMBtu of steam output or 3.6 lb per MWh; 3-run average</th>
<th>1 hr minimum sampling time.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.2E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)</td>
<td>4.3E-03 lb per MMBtu of steam output or 4.5E-02 lb per MWh; or (5.2E-05 lb per MMBtu of steam output or 5.5E-04 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>12. Fuel cell units designed to burn biomass/bio-based solids</td>
<td>a. CO</td>
<td>910 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>1.1 lb per MMBtu of steam output or 1.0E + 01 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.0E-02 lb per MMBtu of heat input; or (2.9E-05(^a) lb per MMBtu of heat input)</td>
<td>3.0E-02 lb per MMBtu of steam output or 2.8E-01 lb per MWh; or (5.1E-05 lb per MMBtu of steam output or 4.1E-04 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids</td>
<td>a. CO (or CEMS)</td>
<td>1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,(^4) 30-day rolling average)</td>
<td>1.4 lb per MMBtu of steam output; 12 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input)</td>
<td>3.3E-02 lb per MMBtu of steam output or 3.7E-01 lb per MWh; or (5.5E-04 lb per MMBtu of steam output or 6.2E-03 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>14. Units designed to burn liquid fuel</td>
<td>a. HCl</td>
<td>4.4E-04 lb per MMBtu of heat input</td>
<td>4.8E-04 lb per MMBtu of steam output or 6.1E-03 lb per MWh</td>
<td>For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
</tbody>
</table>
If your boiler or process heater is in this subcategory . . .

For the following pollutants . . .

The emissions must not exceed the following emission limits, except during startup and shutdown . . .

Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .

Using this specified sampling volume or test run duration . . .

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Pollutant</th>
<th>Emission Limit</th>
<th>Alternative Limit</th>
<th>Sampling Volume or Test Run Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Units designed to burn heavy liquid fuel</td>
<td>CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average</td>
<td>0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input)</td>
<td>1.5E-02 lb per MMBtu of steam output or 1.8E-01 lb per MWh; or (8.2E-05 lb per MMBtu of steam output or 1.1E-03 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>16. Units designed to burn light liquid fuel</td>
<td>CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>0.13 lb per MMBtu of steam output or 1.4 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)</td>
<td>1.2E-03 lb per MMBtu of steam output or 1.6E-02 lb per MWh; or (3.2E-05 lb per MMBtu of steam output or 4.0E-04 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>17. Units designed to burn liquid fuel that are non-continental units</td>
<td>CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test</td>
<td>0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)</td>
<td>2.5E-02 lb per MMBtu of steam output or 3.2E-01 lb per MWh; or (9.4E-04 lb per MMBtu of steam output or 1.2E-02 lb per MWh)</td>
<td>Collect a minimum of 4 dscm per run.</td>
</tr>
<tr>
<td>18. Units designed to burn gas 2 (other) gases</td>
<td>CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>0.16 lb per MMBtu of steam output or 1.0 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>HCl</td>
<td>1.7E-03 lb per MMBtu of heat input</td>
<td>2.9E-03 lb per MMBtu of steam output or 1.8E-02 lb per MWh</td>
<td>For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
</tbody>
</table>
If your boiler or process heater is in this subcategory . . . For the following pollutants . . . The emissions must not exceed the following emission limits, except during startup and shutdown . . . Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . . Using this specified sampling volume or test run duration . . .

<table>
<thead>
<tr>
<th></th>
<th>c. Mercury</th>
<th></th>
<th>Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .</th>
<th>Using this specified sampling volume or test run duration . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.9E-06 lb per MMBtu of heat input</td>
<td>1.4E-05 lb per MMBtu of steam output or 8.3E-05 lb per MWh</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784, collect a minimum of 3 dscm.</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>d. Filterable PM (or TSM)</td>
<td>6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)</td>
<td>1.2E-02 lb per MMBtu of steam output or 7.0E-02 lb per MWh; or (3.5E-04 lb per MMBtu of steam output or 2.2E-03 lb per MWh)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[\text{If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provisions of §63.7515 are met. For all other pollutants that do not contain a footnote “a”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.}\]

\[\text{If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before April 1, 2013, you may comply with the emission limits in Tables 11, 12 or 13 to this subpart until January 31, 2016. On and after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.}\]

\[\text{An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO}_2\text{ correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO}_2\text{ being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.}\]

Table 2 to Subpart DDDD of Part 63—Emission Limits for Existing Boilers and Process Heaters

As stated in §63.7500, you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

<table>
<thead>
<tr>
<th>If your boiler or process heater is in this subcategory</th>
<th>For the following pollutants</th>
<th>The emissions must not exceed the following emission limits, except during startup and shutdown</th>
<th>The emissions must not exceed the following alternative output-based limits, except during startup and shutdown</th>
<th>Using this specified sampling volume or test run duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Units in all subcategories designed to burn solid fuel</td>
<td>a. HCl</td>
<td>2.2E-02 lb per MMBtu of heat input</td>
<td>2.5E-02 lb per MMBtu of steam output or 0.27 lb per MWh</td>
<td>For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 120 liters per run.</td>
</tr>
<tr>
<td></td>
<td>b. Mercury</td>
<td>5.7E-06 lb per MMBtu of heat input</td>
<td>6.4E-06 lb per MMBtu of steam output or 7.3E-05 lb per MWh</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784b collect a minimum of 3 dscm.</td>
</tr>
<tr>
<td>2. Units design to burn coal/solid fossil fuel</td>
<td>a. Filterable PM (or TSM)</td>
<td>4.0E-02 lb per MMBtu of heat input; or (5.3E-05 lb per MMBtu of heat input)</td>
<td>4.2E-02 lb per MMBtu of steam output or 4.9E-01 lb per MWh; or (6.6E-05 lb per MMBtu of steam output or 6.5E-04 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>3. Pulverized coal boilers designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>4. Stokers/others designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>160 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>0.14 lb per MMBtu of steam output or 1.7 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>5. Fluidized bed units designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>Subcategory Description</td>
<td>Pollutant(s)</td>
<td>Emission Limit(s)</td>
<td>Alternative Limit(s)</td>
<td>Sampling Method</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------</td>
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<td>----------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1.3E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.7E-02 lb per MMBtu of heat input; or (2.4E-04 lb per MMBtu of heat input)</td>
<td>4.3E-02 lb per MMBtu of steam output or 5.2E-01 lb per MWh; or (2.8E-04 lb per MMBtu of steam output or 3.4E-04 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>7. Stokers/sloped grate/others designed to burn wet biomass fuel</td>
<td>a. CO (or CEMS)</td>
<td>1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (720 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1.4 lb per MMBtu of steam output or 17 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)</td>
<td>3.7E-01 lb per MMBtu of steam output or 4.5 lb per MWh; or (4.6E-03 lb per MMBtu of steam output or 5.6E-02 lb per MWh)</td>
<td>Collect a minimum of 1 dscm per run.</td>
</tr>
<tr>
<td>8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel</td>
<td>a. CO</td>
<td>460 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)</td>
<td>3.7E-01 lb per MMBtu of steam output or 4.5 lb per MWh; or (4.6E-03 lb per MMBtu of steam output or 5.6E-02 lb per MWh)</td>
<td>Collect a minimum of 1 dscm per run.</td>
</tr>
<tr>
<td>9. Fluidized bed units designed to burn biomass/bio-based solid</td>
<td>a. CO (or CEMS)</td>
<td>470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>4.6E-01 lb per MMBtu of steam output or 5.2 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>1.1E-01 lb per MMBtu of heat input; or (1.2E-03 lb per MMBtu of heat input)</td>
<td>1.4E-01 lb per MMBtu of steam output or 1.6 lb per MWh; or (1.5E-03 lb per MMBtu of steam output or 1.7E-02 lb per MWh)</td>
<td>Collect a minimum of 1 dscm per run.</td>
</tr>
<tr>
<td>Subcategory</td>
<td>For the following pollutants</td>
<td>The emissions must not exceed the following emission limits, except during startup and shutdown</td>
<td>The emissions must not exceed the following alternative output-based limits, except during startup and shutdown</td>
<td>Using this specified sampling volume or test run duration</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>10. Suspension burners designed to burn biomass/bio-based solid</td>
<td>a. CO (or CEMS)</td>
<td>2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen,(^\text{a}) 10-day rolling average)</td>
<td>1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>5.1E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)</td>
<td>5.2E-02 lb per MMBtu of steam output or 7.1E-01 lb per MWh; or (6.6E-03 lb per MMBtu of steam output or 9.1E-02 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solid</td>
<td>a. CO (or CEMS)</td>
<td>770 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,(^\text{a}) 10-day rolling average)</td>
<td>8.4E-01 lb per MMBtu of steam output or 8.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.8E-01 lb per MMBtu of heat input; or (2.0E-03 lb per MMBtu of heat input)</td>
<td>3.9E-01 lb per MMBtu of steam output or 3.9 lb per MWh; or (2.8E-03 lb per MMBtu of steam output or 2.8E-02 lb per MWh)</td>
<td>Collect a minimum of 1 dscm per run.</td>
</tr>
<tr>
<td>12. Fuel cell units designed to burn biomass/bio-based solid</td>
<td>a. CO</td>
<td>1,100 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>2.4 lb per MMBtu of steam output or 12 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.0E-02 lb per MMBtu of heat input; or (5.8E-03 lb per MMBtu of heat input)</td>
<td>5.5E-02 lb per MMBtu of steam output or 2.8E-01 lb per MWh; or (1.6E-02 lb per MMBtu of steam output or 8.1E-02 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>13. Hybrid suspension grate units designed to burn biomass/bio-based solid</td>
<td>a. CO (or CEMS)</td>
<td>3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,(^\text{a}) 30-day rolling average)</td>
<td>3.5 lb per MMBtu of steam output or 39 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
</tbody>
</table>
If your boiler or process heater is in this subcategory...

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Pollutants</th>
<th>Emission Limits</th>
<th>Collect</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Units designed to burn liquid fuel</td>
<td>a. HCl</td>
<td>1.1E-03 lb per MMBtu of heat input</td>
<td>1.4E-03 lb per MMBtu of steam output or 1.6E-02 lb per MWh</td>
<td>For M26A, collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
<tr>
<td></td>
<td>b. Mercury</td>
<td>2.0E-06 lb per MMBtu of heat input</td>
<td>2.5E-06 lb per MMBtu of steam output or 2.8E-05 lb per MWh</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B collect a minimum sample as specified in the method, for ASTM D6784, collect a minimum of 2 dscm.</td>
</tr>
<tr>
<td>15. Units designed to burn heavy liquid fuel</td>
<td>a. CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average</td>
<td>0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>6.2E-02 lb per MMBtu of heat input; or (2.0E-04 lb per MMBtu of heat input)</td>
<td>7.5E-02 lb per MMBtu of steam output or 8.6E-01 lb per MWh; or (2.5E-04 lb per MMBtu of steam output or 2.8E-03 lb per MWh)</td>
<td>Collect a minimum of 1 dscm per run.</td>
</tr>
<tr>
<td>16. Units designed to burn light liquid fuel</td>
<td>a. CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>0.13 lb per MMBtu of steam output or 1.4 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>7.9E-03 lb per MMBtu of heat input; or (6.2E-05 lb per MMBtu of heat input)</td>
<td>9.6E-03 lb per MMBtu of steam output or 1.1E-01 lb per MWh; or (7.5E-05 lb per MMBtu of steam output or 8.6E-04 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>17. Units designed to burn liquid fuel that are non-continental units</td>
<td>a. CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test</td>
<td>0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.7E-01 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)</td>
<td>3.3E-01 lb per MMBtu of steam output or 3.8 lb per MWh; or (1.1E-03 lb per MMBtu of steam output or 1.2E-02 lb per MWh)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>If your boiler or process heater is in this subcategory</td>
<td>For the following pollutants</td>
<td>The emissions must not exceed the following emission limits, except during startup and shutdown</td>
<td>The emissions must not exceed the following alternative output-based limits, except during startup and shutdown</td>
<td>Using this specified sampling volume or test run duration</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-----------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>18. Units designed to burn gas 2 (other) gases</td>
<td>a. CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>0.16 lb per MMBtu of steam output or 1.0 lb per MWh</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. HCl</td>
<td>1.7E-03 lb per MMBtu of heat input</td>
<td>2.9E-03 lb per MMBtu of steam output or 1.8E-02 lb per MWh</td>
<td>For M26A, collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
<tr>
<td></td>
<td>c. Mercury</td>
<td>7.9E-06 lb per MMBtu of heat input</td>
<td>1.4E-05 lb per MMBtu of steam output or 8.3E-05 lb per MWh</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784, collect a minimum of 2 dscm.</td>
</tr>
<tr>
<td></td>
<td>d. Filterable PM (or TSM)</td>
<td>6.7E-03 lb per MMBtu of heat input or (2.1E-04 lb per MMBtu of heat input)</td>
<td>1.2E-02 lb per MMBtu of steam output or 7.0E-02 lb per MWh; or (3.5E-04 lb per MMBtu of steam output or 2.2E-03 lb per MWh)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
</tbody>
</table>

*a*If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provisions of §63.7515 are met. For all other pollutants that do not contain a footnote a, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

*b*Incorporated by reference, see §63.14.

*c*An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO₂ correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO₂ being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards

As stated in §63.7500, you must comply with the following applicable work practice standards:

<table>
<thead>
<tr>
<th>If your unit is . . .</th>
<th>You must meet the following . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater</td>
<td>Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.</td>
</tr>
<tr>
<td>2. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of less than 10 million Btu per hour in the unit designed to burn heavy liquid or unit designed to burn solid fuel subcategories; or a new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour, in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid</td>
<td>Conduct a tune-up of the boiler or process heater biennially as specified in §63.7540.</td>
</tr>
<tr>
<td>3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater</td>
<td>Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.</td>
</tr>
<tr>
<td>4. An existing boiler or process heater located at a major source facility, not including limited use units</td>
<td>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. 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 one year between January 1, 2008 and the compliance date specified in §63.7495 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 a. to e. appropriate for the on-site technical hours listed in §63.7575:</td>
</tr>
<tr>
<td>a. A visual inspection of the boiler or process heater system.</td>
<td></td>
</tr>
<tr>
<td>b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.</td>
<td></td>
</tr>
<tr>
<td>c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.</td>
<td></td>
</tr>
</tbody>
</table>
If your unit is . . . | You must meet the following . . .
---|---
d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified.
f. A list of cost-effective energy conservation measures that are within the facility's control.
g. A list of the energy savings potential of the energy conservation measures identified.
h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup

   a. You must operate all CMS during startup.
   b. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.
   c. You have the option of complying using either of the following work practice standards.
      (1) If you choose to comply using definition (1) of "startup" in §63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose.
      (2) If you choose to comply using definition (2) of "startup" in §63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in §63.7505(e).
   d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in §63.7535(b). You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in §63.7555.
If your unit is . . . You must meet the following . . .

6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown

You must operate all CMS during shutdown. While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other standards applicable to the source that require operation of the control device.

If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas. You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in §63.7535(b).

You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in §63.7555.

aAs specified in §63.7555(d)(13), the source may request an alternative timeframe with the PM controls requirement to the permitting authority (state, local, or tribal agency) that has been delegated authority for this subpart by EPA. The source must provide evidence that (1) it is unable to safely engage and operate the PM control(s) to meet the “fuel firing + 1 hour” requirement and (2) the PM control device is appropriately designed and sized to meet the filterable PM emission limit. It is acknowledged that there may be another control device that has been installed other than ESP that provides additional PM control (e.g., scrubber).


Table 4 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters

As stated in §63.7500, you must comply with the applicable operating limits:

Table 4 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters

<table>
<thead>
<tr>
<th>When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .</th>
<th>You must meet these operating limits . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wet PM scrubber control on a boiler or process heater not using a PM CPMS</td>
<td>Maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test demonstrating compliance with the PM emission limitation according to §63.7530(b) and Table 7 to this subpart.</td>
</tr>
<tr>
<td>2. Wet acid gas (HCl) scrubbera control on a boiler or process heater not using a HCl CEMS</td>
<td>Maintain the 30-day rolling average effluent pH at or above the lowest one-hour average pH and the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during the performance test demonstrating compliance with the HCl emission limitation according to §63.7530(b) and Table 7 to this subpart.</td>
</tr>
<tr>
<td>3. Fabric filter control on a boiler or process heater not using a PM CPMS</td>
<td>a. Maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average); or</td>
</tr>
</tbody>
</table>
When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . . You must meet these operating limits . . .

<table>
<thead>
<tr>
<th>2. Install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Electrostatic precipitator control on a boiler or process heater not using a PM CPMS  a. This option is for boilers and process heaters that operate dry control systems (i.e., an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).  b. This option is only for boilers and process heaters not subject to PM CPMS or continuous compliance with an opacity limit (i.e., dry ESP). Maintain the 30-day rolling average total secondary electric power input of the electrostatic precipitator at or above the operating limits established during the performance test according to §63.7530(b) and Table 7 to this subpart.</td>
</tr>
<tr>
<td>5. Dry scrubber or carbon injection control on a boiler or process heater not using a mercury CEMS Maintain the minimum sorbent or carbon injection rate as defined in §63.7575 of this subpart.</td>
</tr>
<tr>
<td>6. Any other add-on air pollution control type on a boiler or process heater not using a PM CPMS This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).</td>
</tr>
<tr>
<td>7. Performance testing For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.</td>
</tr>
<tr>
<td>8. Oxygen analyzer system For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O₂ analyzer system as specified in §63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test, as specified in Table 8. 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 §63.7525(a).</td>
</tr>
<tr>
<td>9. SO₂ CEMS For boilers or process heaters subject to an HCl emission limit that demonstrate compliance with an SO₂ CEMS, maintain the 30-day rolling average SO₂ emission rate at or below the highest hourly average SO₂ concentration measured during the HCl performance test, as specified in Table 8.</td>
</tr>
</tbody>
</table>

*A wet acid gas scrubber is a control device that removes acid gases by contacting the combustion gas with an alkaline slurry or solution. Alkaline reagents include, but not limited to, lime, limestone and sodium.*

*[80 FR 72874, Nov. 20, 2015]*
Table 5 to Subpart DDDDD of Part 63—Performance Testing Requirements

As stated in §63.7520, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources:

<table>
<thead>
<tr>
<th>To conduct a performance test for the following pollutant . . .</th>
<th>You must . . .</th>
<th>Using, as appropriate . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Filterable PM</td>
<td>a. Select sampling ports location and the number of traverse points</td>
<td>Method 1 at 40 CFR part 60, appendix A-1 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 at 40 CFR part 60, appendix A-1 or A-2 to part 60 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>c. Determine oxygen or carbon dioxide concentration of the stack gas</td>
<td>Method 3A or 3B at 40 CFR part 60, appendix A-2 to part 60 of this chapter, 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 at 40 CFR part 60, appendix A-3 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>e. Measure the PM emission concentration</td>
<td>Method 5 or 17 (positive pressure fabric filters must use Method 5D) at 40 CFR part 60, appendix A-3 or A-6 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>f. Convert emissions concentration to lb per MMBtu emission rates</td>
<td>Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.</td>
</tr>
<tr>
<td>2. TSM</td>
<td>a. Select sampling ports location and the number of traverse points</td>
<td>Method 1 at 40 CFR part 60, appendix A-1 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 at 40 CFR part 60, appendix A-1 or A-2 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>c. Determine oxygen or carbon dioxide concentration of the stack gas</td>
<td>Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, 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 at 40 CFR part 60, appendix A-3 of this chapter.</td>
</tr>
<tr>
<td></td>
<td>e. Measure the TSM emission concentration</td>
<td>Method 29 at 40 CFR part 60, appendix A-8 of this chapter</td>
</tr>
<tr>
<td></td>
<td>f. Convert emissions concentration to lb per MMBtu emission rates</td>
<td>Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.</td>
</tr>
<tr>
<td>3. Hydrogen chloride</td>
<td>a. Select sampling ports location and the number of traverse points</td>
<td>Method 1 at 40 CFR part 60, appendix A-1 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 at 40 CFR part 60, appendix A-2 of this chapter.</td>
</tr>
<tr>
<td>To conduct a performance test for the following pollutant . . .</td>
<td>You must . . .</td>
<td>Using, as appropriate . . .</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>c. Determine oxygen or carbon dioxide concentration of the stack gas</td>
<td>Method 3A or 3B at 40 CFR part 60, appendix A-2 of this chapter, 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 at 40 CFR part 60, appendix A-3 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>e. Measure the hydrogen chloride emission concentration</td>
<td>Method 26 or 26A (M26 or M26A) at 40 CFR part 60, appendix A-8 of this chapter.</td>
<td></td>
</tr>
<tr>
<td>f. Convert emissions concentration to lb per MMBtu emission rates</td>
<td>Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.</td>
<td></td>
</tr>
</tbody>
</table>

4. Mercury

| a. Select sampling ports location and the number of traverse points | Method 1 at 40 CFR part 60, appendix A-1 of this chapter. | |
| b. Determine velocity and volumetric flow-rate of the stack gas | Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this chapter. | |
| c. Determine oxygen or carbon dioxide concentration of the stack gas | Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981.a | |
| d. Measure the moisture content of the stack gas | Method 4 at 40 CFR part 60, appendix A-3 of this chapter. | |
| e. Measure the mercury emission concentration | Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784.a | |
| f. Convert emissions concentration to lb per MMBtu emission rates | Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter. | |

5. CO

| a. Select the sampling ports location and the number of traverse points | Method 1 at 40 CFR part 60, appendix A-1 of this chapter. | |
| b. Determine oxygen concentration of the stack gas | Method 3A or 3B at 40 CFR part 60, appendix A-3 of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981.a | |
| c. Measure the moisture content of the stack gas | Method 4 at 40 CFR part 60, appendix A-3 of this chapter. | |
| d. Measure the CO emission concentration | Method 10 at 40 CFR part 60, appendix A-4 of this chapter. Use a measurement span value of 2 times the concentration of the applicable emission limit. | |

*aIncorporated by reference, see §63.14.

Table 6 to Subpart DDDD of Part 63—Fuel Analysis Requirements

As stated in §63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources. However, equivalent methods (as defined in §63.7575) may be used in lieu of the prescribed methods at the discretion of the source owner or operator:

<table>
<thead>
<tr>
<th>To conduct a fuel analysis for the following pollutant . . .</th>
<th>You must . . .</th>
<th>Using . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mercury</td>
<td>a. Collect fuel samples</td>
<td>Procedure in §63.7521(c) or ASTM D5192, a or ASTM D7430, a or ASTM D6883, a or ASTM D2234/D2234M (for coal) or ASTM D6323 (for solid), or ASTM D4177 (for liquid), or ASTM D4057 (for liquid), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>b. Composite fuel samples</td>
<td>Procedure in §63.7521(d) or equivalent.</td>
</tr>
<tr>
<td></td>
<td>c. Prepare composited fuel samples</td>
<td>EPA SW-846-3050B (for solid samples), ASTM D2013/D2013M (for coal), ASTM D5198 (for biomass), or EPA 3050 (for solid fuel), or EPA 821-R-01-013 (for liquid or solid), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>d. Determine heat content of the fuel type</td>
<td>ASTM D5865 (for coal) or ASTM E711 (for biomass), or ASTM D5864 (for liquids and other solids, or ASTM D240 or equivalent.</td>
</tr>
<tr>
<td></td>
<td>e. Determine moisture content of the fuel type</td>
<td>ASTM D3173, ASTM E871, ASTM D5864, ASTM D240, or ASTM D95 (for liquid fuels), or ASTM D4006 (for liquid fuels), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>f. Measure mercury concentration in fuel sample</td>
<td>ASTM D6722 (for coal), EPA SW-846-7471B or EPA 1631 or EPA 1631E (for solid samples), or EPA SW-846-7470A (for liquid samples), or EPA 821-R-01-013 (for liquid or solid), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>g. Convert concentration into units of pounds of mercury per MMBtu of heat content</td>
<td>For fuel mixtures use Equation 8 in §63.7530.</td>
</tr>
<tr>
<td>2. HCl</td>
<td>a. Collect fuel samples</td>
<td>Procedure in §63.7521(c) or ASTM D5192, ASTM D7430, ASTM D6883, ASTM D2234/D2234M (for coal) or ASTM D6323 (for coal or biomass), ASTM D4177 (for liquid fuels) or ASTM D4057 (for liquid fuels), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>b. Composite fuel samples</td>
<td>Procedure in §63.7521(d) or equivalent.</td>
</tr>
<tr>
<td></td>
<td>c. Prepare composited fuel samples</td>
<td>EPA SW-846-3050B (for solid samples), ASTM D2013/D2013M (for coal), or ASTM D5198 (for biomass), or EPA 3050 (for solid fuel), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>d. Determine heat content of the fuel type</td>
<td>ASTM D5865 (for coal) or ASTM E711 (for biomass), or ASTM D5864, ASTM D240 or equivalent.</td>
</tr>
<tr>
<td></td>
<td>e. Determine moisture content of the fuel type</td>
<td>ASTM D3173 or ASTM E871, ASTM D5864, or ASTM D240, or ASTM D95 (for liquid fuels), or ASTM D4006 (for liquid fuels), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>f. Measure chlorine concentration in fuel sample</td>
<td>EPA SW-846-9250, ASTM D6721, ASTM D4208 (for coal), or EPA SW-846-5050 or ASTM E776 (for solid fuel), or EPA SW-846-9056 or SW-846-9076 (for solids or liquids) or equivalent.</td>
</tr>
</tbody>
</table>
## To conduct a fuel analysis for the following pollutant

<table>
<thead>
<tr>
<th></th>
<th>You must . . .</th>
<th>Using . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>g. Convert concentrations into units of pounds of HCl per MMBtu of heat content</td>
<td>For fuel mixtures use Equation 7 in §63.7530 and convert from chlorine to HCl by multiplying by 1.028.</td>
</tr>
</tbody>
</table>

### 3. Mercury Fuel Specification for other gas 1 fuels

<table>
<thead>
<tr>
<th></th>
<th>a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter, or</th>
<th>Method 30B (M30B) at 40 CFR part 60, appendix A-8 of this chapter or ASTM D5954, or ASTM D6350, or ISO 6978-1:2003(E), or ISO 6978-2:2003(E), or EPA-1631 or equivalent.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater</td>
<td>Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A or Method 102 at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784 or equivalent.</td>
</tr>
</tbody>
</table>

### 4. TSM

<table>
<thead>
<tr>
<th></th>
<th>a. Collect fuel samples</th>
<th>Procedure in §63.7521(c) or ASTM D5192, or ASTM D7430, or ASTM D6883, or ASTM D2234/D2234M (for coal) or ASTM D6323 (for coal or biomass), or ASTM D4177, (for liquid fuels) or ASTM D4057 (for liquid fuels), or equivalent.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Composite fuel samples</td>
<td>Procedure in §63.7521(d) or equivalent.</td>
</tr>
<tr>
<td></td>
<td>c. Prepare composited fuel samples</td>
<td>EPA SW-846-3050B (for solid samples), ASTM D2013/D2013M (for coal), ASTM D5198 or TAPPI T266 (for biomass), or EPA 3050 or equivalent.</td>
</tr>
<tr>
<td></td>
<td>d. Determine heat content of the fuel type</td>
<td>ASTM D5865 (for coal) or ASTM E711 (for biomass), or ASTM D5864 for liquids and other solids, or ASTM D240 or equivalent.</td>
</tr>
<tr>
<td></td>
<td>e. Determine moisture content of the fuel type</td>
<td>ASTM D3173 or ASTM E871, or D5864, or ASTM D240, or ASTM D95 (for liquid fuels), or ASTM D4006 (for liquid fuels), or ASTM D4177 (for liquid fuels) or ASTM D4057 (for liquid fuels), or equivalent.</td>
</tr>
<tr>
<td></td>
<td>f. Measure TSM concentration in fuel sample</td>
<td>ASTM D3683, or ASTM D4606, or ASTM D6357 or EPA 200.8 or EPA SW-846-6020, or EPA SW-846-6020A, or EPA SW-846-6010C, EPA 7060 or EPA 7060A (for arsenic only), or EPA SW-846-7740 or EPA 7740 (for selenium only).</td>
</tr>
<tr>
<td></td>
<td>g. Convert concentrations into units of pounds of TSM per MMBtu of heat content</td>
<td>For fuel mixtures use Equation 9 in §63.7530.</td>
</tr>
</tbody>
</table>

---

*Incorporated by reference, see §63.14.

[80 FR 72825, Nov. 20, 2015]
Table 7 to Subpart DDDDD of Part 63—Establishing Operating Limits

As stated in §63.7520, 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, TSM, or mercury</td>
<td>a. Wet scrubber operating parameters</td>
<td>i. Establish a site-specific minimum scrubber pressure drop and minimum flow rate operating limit according to §63.7530(b)</td>
<td>(1) Data from the scrubber pressure drop and liquid flow rate monitors and the PM, TSM, or mercury performance test</td>
<td>(a) You must collect scrubber pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance tests. (b) Determine the lowest hourly average scrubber pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.</td>
</tr>
<tr>
<td></td>
<td>b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers)</td>
<td>i. Establish a site-specific minimum total secondary electric power input according to §63.7530(b)</td>
<td>(1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test</td>
<td>(a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests. (b) Determine the average total secondary electric power input by computing the hourly averages using all of the 15-minute readings taken during each performance test.</td>
</tr>
<tr>
<td></td>
<td>c. Opacity</td>
<td>i. Establish a site-specific maximum opacity level</td>
<td>(1) Data from the opacity monitoring system during the PM performance test</td>
<td>(a) You must collect opacity readings every 15 minutes during the entire period of the performance tests. (b) Determine the average hourly opacity reading for each performance test run by computing the hourly averages using all of the 15-minute readings taken during each performance test run. (c) Determine the highest hourly average opacity reading measured during the test run demonstrating compliance with the PM (or TSM) emission limitation.</td>
</tr>
</tbody>
</table>
If you have an applicable emission limit for... And your operating limits are based on... You must... Using... According to the following requirements

2. HCl

| a. Wet scrubber operating parameters | i. Establish site-specific minimum effluent pH and flow rate operating limits according to §63.7530(b) | (1) Data from the pH and liquid flow-rate monitors and the HCl performance test | (a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests. (b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test. |

| b. Dry scrubber operating parameters | i. Establish a site-specific minimum sorbent injection rate operating limit according to §63.7530(b). If different acid gas sorbents are used during the HCl performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent | (1) Data from the sorbent injection rate monitors and HCl or mercury performance test | (a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests. (b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in §63.7575, to determine the required injection rate. |

| c. Alternative Maximum SO₂emission rate | i. Establish a site-specific maximum SO₂emission rate operating limit according to §63.7530(b) | (1) Data from SO₂CEMS and the HCl performance test | (a) You must collect the SO₂emissions data according to §63.7525(m) during the most recent HCl performance tests. (b) The maximum SO₂emission rate is equal to the highest hourly average SO₂emission rate measured during the most recent HCl performance tests. |
If you have an applicable emission limit for . . .  
And your operating limits are based on . . . 
You must . . . 
Using . . . 
According to the following requirements

| 3. Mercury | a. Activated carbon injection | i. Establish a site-specific minimum activated carbon injection rate operating limit according to §63.7530(b) | (1) Data from the activated carbon rate monitors and mercury performance test | (a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests.  
(b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.  
(c) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction, as defined in §63.7575, to determine the required injection rate. |
|---|---|---|---|---|
| 4. Carbon monoxide for which compliance is demonstrated by a performance test | a. Oxygen | i. Establish a unit-specific limit for minimum oxygen level according to §63.7530(b) | (1) Data from the oxygen analyzer system specified in §63.7525(a) | (a) You must collect oxygen data every 15 minutes during the entire period of the performance tests.  
(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.  
(c) Determine the lowest hourly average established during the performance test as your minimum operating limit. |
| 5. Any pollutant for which compliance is demonstrated by a performance test | a. Boiler or process heater operating load | i. Establish a unit specific limit for maximum operating load according to §63.7520(c) | (1) Data from the operating load monitors or from steam generation monitors | (a) You must collect operating load 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.  
(c) Determine the highest hourly average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit. |

*Operating limits must be confirmed or reestablished during performance tests.*
If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests. For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

[80 FR 72827, Nov. 20, 2015]

**Table 8 to Subpart DDDDD of Part 63—Demonstrating Continuous Compliance**

As stated in §63.7540, you must show continuous compliance with the emission limitations for each boiler or process heater according to the following:

<table>
<thead>
<tr>
<th>If you must meet the following operating limits or work practice standards . . .</th>
<th>You must demonstrate continuous compliance by . . .</th>
</tr>
</thead>
</table>
| 1. Opacity | a. Collecting the opacity monitoring system data according to §63.7525(c) and §63.7535; and  
|  | b. Reducing the opacity monitoring data to 6-minute averages; and  
|  | c. Maintaining daily block average opacity to less than or equal to 10 percent or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation. |
| 2. PM CPMS | a. Collecting the PM CPMS output data according to §63.7525;  
|  | b. Reducing the data to 30-day rolling averages; and  
|  | c. Maintaining the 30-day rolling average PM CPMS output data to less than the operating limit established during the performance test according to §63.7530(b)(4). |
| 3. Fabric Filter Bag Leak Detection Operation | Installing and operating a bag leak detection system according to §63.7525 and operating the fabric filter such that the requirements in §63.7540(a)(7) are met. |
| 4. Wet Scrubber Pressure Drop and Liquid Flow-rate | a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.7525 and 63.7535; and  
|  | b. Reducing the data to 30-day rolling averages; and  
|  | c. Maintaining the 30-day rolling average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to §63.7530(b). |
| 5. Wet Scrubber pH | a. Collecting the pH monitoring system data according to §§63.7525 and 63.7535; and  
|  | b. Reducing the data to 30-day rolling averages; and  
|  | c. Maintaining the 30-day rolling average pH at or above the operating limit established during the performance test according to §63.7530(b). |
| 6. Dry Scrubber Sorbent or Carbon Injection Rate | a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§63.7525 and 63.7535; and  
|  | b. Reducing the data to 30-day rolling averages; and  
|  | c. Maintaining the 30-day rolling average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in §63.7575. |
| 7. Electrostatic Precipitator Total Secondary Electric Power Input | a. Collecting the total secondary electric power input monitoring system data for the electrostatic precipitator according to §§63.7525 and 63.7535; and  
|  | b. Reducing the data to 30-day rolling averages; and |
If you must meet the following operating limits or work practice standards . . . | You must demonstrate continuous compliance by . . . |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>c. Maintaining the 30-day rolling average total secondary electric power input at or above the operating limits established during the performance test according to §63.7530(b).</td>
<td></td>
</tr>
</tbody>
</table>

8. Emission limits using fuel analysis

| a. Conduct monthly fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart; and |
| b. Reduce the data to 12-month rolling averages; and |
| c. Maintain the 12-month rolling average at or below the applicable emission limit for HCl or mercury or TSM in Tables 1 and 2 or 11 through 13 to this subpart. |
| d. Calculate the HCl, mercury, and/or TSM emission rate from the boiler or process heater in units of lb/MMBtu using Equation 15 and Equations 17, 18, and/or 19 in §63.7530. |

9. Oxygen content

| a. Continuously monitor the oxygen content using an oxygen analyzer system according to §63.7525(a). 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 §63.7525(a)(7). |
| b. Reducing the data to 30-day rolling averages; and |
| c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the CO performance test. |

10. Boiler or process heater operating load

| a. Collecting operating load data or steam generation data every 15 minutes. |
| b. Reducing the data to 30-day rolling averages; and |
| c. Maintaining the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test according to §63.7520(c). |

11. SO$_2$ emissions using SO$_2$ CEMS

| a. Collecting the SO$_2$ CEMS output data according to §63.7525; |
| b. Reducing the data to 30-day rolling averages; and |
| c. Maintaining the 30-day rolling average SO$_2$ CEMS emission rate to a level at or below the highest hourly SO$_2$ rate measured during the HCl performance test according to §63.7530. |


Table 9 to Subpart DDDDD of Part 63—Reporting Requirements

As stated in §63.7550, you must comply with the following requirements for reports:

<table>
<thead>
<tr>
<th>You must submit a(n)</th>
<th>The report must contain . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compliance report</td>
<td>a. Information required in §63.7550(c)(1) through (5); and</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
You must submit an
The report must contain . . .
You must submit the report . . .

b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and

c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in §63.7550(d); and

d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), or otherwise not operating, the report must contain the information in §63.7550(e)


Table 10 to Subpart DDDDD of Part 63—Applicability of General Provisions to Subpart DDDDD

As stated in §63.7565, you must comply with the applicable General Provisions according to the following:

<table>
<thead>
<tr>
<th>Citation</th>
<th>Subject</th>
<th>Applies to subpart DDDDD</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 §63.7575</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>Yes.</td>
</tr>
<tr>
<td>§63.6(a), (b)(1)-(b)(5), (b)(7), (c)</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 §63.7500(a)(3) for the general duty requirement.</td>
</tr>
<tr>
<td>§63.6(e)(1)(ii)</td>
<td>Requirement to correct malfunctions as soon as practicable.</td>
<td>No.</td>
</tr>
<tr>
<td>§63.6(e)(3)</td>
<td>Startup, shutdown, and malfunction plan requirements.</td>
<td>No.</td>
</tr>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Applies to subpart DDDD</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>§63.6(f)(1)</td>
<td>Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards.</td>
<td>No.</td>
</tr>
<tr>
<td>§63.6(f)(2) and (3)</td>
<td>Compliance with non-opacity emission standards.</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.6(g)</td>
<td>Use of alternative standards</td>
<td>Yes, except §63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2).</td>
</tr>
<tr>
<td>§63.6(h)(1)</td>
<td>Startup, shutdown, and malfunction exemptions to opacity standards.</td>
<td>No. See §63.7500(a).</td>
</tr>
<tr>
<td>§63.6(h)(2) to (h)(9)</td>
<td>Determining compliance with opacity emission standards</td>
<td>No. Subpart DDDD specifies opacity as an operating limit not an emission standard.</td>
</tr>
<tr>
<td>§63.6(i)</td>
<td>Extension of compliance</td>
<td>Yes. Note: Facilities may also request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart.</td>
</tr>
<tr>
<td>§63.6(j)</td>
<td>Presidential exemption.</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.7(a), (b), (c), and (d)</td>
<td>Performance Testing Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.7(e)(1)</td>
<td>Conditions for conducting performance tests</td>
<td>No. Subpart DDDD specifies conditions for conducting performance tests at §63.7520(a) to (c).</td>
</tr>
<tr>
<td>§63.7(e)(2)-(e)(9), (f), (g), and (h)</td>
<td>Performance Testing Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(a) and (b)</td>
<td>Applicability and Conduct of Monitoring</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(c)(1)</td>
<td>Operation and maintenance of CMS</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. See §63.7500(a)(3).</td>
</tr>
<tr>
<td>§63.8(c)(1)(ii)</td>
<td>Operation and maintenance of CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(c)(1)(iii)</td>
<td>Startup, shutdown, and malfunction plans for CMS</td>
<td>No.</td>
</tr>
<tr>
<td>§63.8(c)(2) to (c)(9)</td>
<td>Operation and maintenance of CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(d)(1) and (2)</td>
<td>Monitoring Requirements, Quality Control Program</td>
<td>Yes.</td>
</tr>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Applies to subpart DDDDD</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------</td>
<td>--------------------------------------------------</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 a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.</td>
</tr>
<tr>
<td>§63.8(e)</td>
<td>Performance evaluation of a CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(f)</td>
<td>Use of an alternative monitoring method.</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.8(g)</td>
<td>Reduction of monitoring data</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.9</td>
<td>Notification Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(a), (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>Yes.</td>
</tr>
<tr>
<td>§63.10(b)(2)(ii)</td>
<td>Recordkeeping of malfunctions</td>
<td>No. See §63.7555(d)(7) for recordkeeping of occurrence and duration and §63.7555(d)(8) for 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 startup, shutdown, or malfunction</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) and (11)</td>
<td>Recording nature and cause of malfunctions, and corrective actions</td>
<td>No. See §63.7555(d)(7) for recordkeeping of occurrence and duration and §63.7555(d)(8) for actions taken during malfunctions.</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>Use of startup, shutdown, and malfunction plan</td>
<td>No.</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>
</tbody>
</table>
Citation | Subject | Applies to subpart DDDDD
--- | --- | ---
§63.10(d)(5) | Startup, shutdown, and malfunction reports | No. See §63.7550(c)(11) for malfunction reporting requirements.
§63.10(e) | Additional reporting requirements for sources with CMS | Yes.
§63.10(f) | Waiver of recordkeeping or reporting requirements | Yes.
§63.11 | Control Device Requirements | No.
§63.12 | State Authority and Delegation | Yes.
§63.13-63.16 | Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions | Yes.
§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). | Reserved | No.


### Table 11 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After June 4, 2010, and Before May 20, 2011

<table>
<thead>
<tr>
<th>If your boiler or process heater is in this subcategory . . .</th>
<th>For the following pollutants . . .</th>
<th>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</th>
<th>Using this specified sampling volume or test run duration . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Units in all subcategories designed to burn solid fuel</td>
<td>a. HCl</td>
<td>0.022 lb per MMBtu of heat input</td>
<td>For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.</td>
</tr>
<tr>
<td>2. Units in all subcategories designed to burn solid fuel that combust at least 10 percent biomass/bio-based solids on an annual heat input basis and less than 10 percent coal/solid fossil fuels on an annual heat input basis</td>
<td>a. Mercury</td>
<td>8.0E-07 lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784b collect a minimum of 4 dscm.</td>
</tr>
<tr>
<td>3. Units in all subcategories designed to burn solid fuel that combust at least 10 percent coal/solid fossil fuels on an annual heat input basis and less than 10 percent biomass/bio-based solids on an annual heat input basis</td>
<td>a. Mercury</td>
<td>2.0E-06 lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784b collect a minimum of 4 dscm.</td>
</tr>
<tr>
<td>Subcategory</td>
<td>Pollutants</td>
<td>Emission Limits</td>
<td>Sampling Volume or Test Run Duration</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>----------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>4. Units design to burn coal/solid fossil fuel</td>
<td>a. Filterable PM (or TSM)</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>5. Pulverized coal boilers designed to burn coal/solid fossil fuel</td>
<td>a. Carbon monoxide (CO) (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>6. Stokers designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>7. Fluidized bed units designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>8. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>9. Stokers/sloped grate/others designed to burn wet biomass fuel</td>
<td>a. CO (or CEMS)</td>
<td>620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>10. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel</td>
<td>a. CO</td>
<td>560 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>11. Fluidized bed units designed to burn biomass/bio-based solids</td>
<td>a. CO (or CEMS)</td>
<td>230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
</tbody>
</table>
If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . .
--- | --- | --- | ---
12. Suspension burners designed to burn biomass/bio-based solids | a. CO (or CEMS) | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 9.8E-03 lb per MMBtu of heat input; or (8.3E-05 lb per MMBtu of heat input) | Collect a minimum of 3 dscm per run. |
13. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids | a. CO (or CEMS) | 1,010 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
14. Fuel cell units designed to burn biomass/bio-based solids | a. CO | 910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
15. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS) | 1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input) | Collect a minimum of 3 dscm per run. |
16. Units designed to burn liquid fuel | a. HCl | 4.4E-04 lb per MMBtu of heat input | For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run. |
| | b. Mercury | 4.8E-07 lb per MMBtu of heat input | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784, collect a minimum of 4 dscm. |
If your boiler or process heater is in this subcategory...

<table>
<thead>
<tr>
<th>For the following pollutants</th>
<th>The emissions must not exceed the following emission limits, except during periods of startup and shutdown</th>
<th>Using this specified sampling volume or test run duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Units designed to burn heavy liquid fuel</td>
<td>a. CO 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>18. Units designed to burn light liquid fuel</td>
<td>a. CO 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>2.0E-03 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>19. Units designed to burn liquid fuel that are non-continental units</td>
<td>a. CO 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 4 dscm per run.</td>
</tr>
<tr>
<td>20. Units designed to burn gas 2 (other) gases</td>
<td>a. CO 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. HCl</td>
<td>1.7E-03 lb per MMBtu of heat input</td>
<td>For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
<tr>
<td>c. Mercury</td>
<td>7.9E-06 lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784, collect a minimum of 3 dscm.</td>
</tr>
<tr>
<td>d. Filterable PM (or TSM)</td>
<td>6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
</tbody>
</table>

*a*If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provision of §63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

*b*Incorporated by reference, see §63.14.

*c*An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO₂ correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen...
correction is to be done on a dry basis. The alternative test method request must account for any CO₂ being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[80 FR 72831, Nov. 20, 2015]

Table 12 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After May 20, 2011, and Before December 23, 2011

<table>
<thead>
<tr>
<th>If your boiler or process heater is in this subcategory . . .</th>
<th>For the following pollutants . . .</th>
<th>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</th>
<th>Using this specified sampling volume or test run duration . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Units in all subcategories designed to burn solid fuel</td>
<td>a. HCl</td>
<td>0.022 lb per MMBtu of heat input</td>
<td>For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.</td>
</tr>
<tr>
<td></td>
<td>b. Mercury</td>
<td>3.5E-06lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 collect a minimum of 3 dscm.</td>
</tr>
<tr>
<td>2. Units design to burn coal/solid fossil fuel</td>
<td>a. Filterable PM (or TSM)</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>3. Pulverized coal boilers designed to burn coal/solid fossil fuel</td>
<td>a. Carbon monoxide (CO) (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>4. Stokers designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>5. Fluidized bed units designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>7. Stokers/sloped grate/others designed to burn wet biomass fuel</td>
<td>a. CO (or CEMS)</td>
<td>620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>If your boiler or process heater is in this subcategory . . .</td>
<td>For the following pollutants . . .</td>
<td>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</td>
<td>Using this specified sampling volume or test run duration . . .</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| 8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel | a. CO  
   b. Filterable PM (or TSM) | 460 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average  
   3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input) | 1 hr minimum sampling time.  
   Collect a minimum of 2 dscm per run. |
| 9. Fluidized bed units designed to burn biomass/bio-based solids | a. CO (or CEMS)  
   b. Filterable PM (or TSM) | 260 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average) | 1 hr minimum sampling time.  
   Collect a minimum of 3 dscm per run. |
| 10. Suspension burners designed to burn biomass/bio-based solids | a. CO (or CEMS)  
   b. Filterable PM (or TSM) | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time.  
   Collect a minimum of 2 dscm per run. |
| 11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids | a. CO (or CEMS)  
   b. Filterable PM (or TSM) | 470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time.  
   Collect a minimum of 3 dscm per run. |
| 12. Fuel cell units designed to burn biomass/bio-based solids | a. CO  
   b. Filterable PM (or TSM) | 910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average  
   2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input) | 1 hr minimum sampling time.  
   Collect a minimum of 2 dscm per run. |
| 13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS)  
   b. Filterable PM (or TSM) | 1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average) | 1 hr minimum sampling time.  
   Collect a minimum of 3 dscm per run. |
| 14. Units designed to burn liquid fuel | a. HCl | 4.4E-04 lb per MMBtu of heat input | For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run. |
If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . . |
---|---|---|---|
| b. Mercury | 4.8E-07<sup>a</sup> lb per MMBtu of heat input | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784<sup>b</sup> collect a minimum of 4 dscm. |
| 15. Units designed to burn heavy liquid fuel | a. CO | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average | 1 hr minimum sampling time. |
| b. Filterable PM (or TSM) | 1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
| 16. Units designed to burn light liquid fuel | a. CO | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average | 1 hr minimum sampling time. |
| b. Filterable PM (or TSM) | 1.3E-03<sup>a</sup> lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input) | Collect a minimum of 3 dscm per run. |
| 17. Units designed to burn liquid fuel that are non-continental units | a. CO | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test | 1 hr minimum sampling time. |
| b. Filterable PM (or TSM) | 2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input) | Collect a minimum of 4 dscm per run. |
| 18. Units designed to burn gas 2 (other) gases | a. CO | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average | 1 hr minimum sampling time. |
| b. HCl | 1.7E-03 lb per MMBtu of heat input | For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run. |
| c. Mercury | 7.9E-06 lb per MMBtu of heat input | For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784<sup>b</sup> collect a minimum of 3 dscm. |
| d. Filterable PM (or TSM) | 6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input) | Collect a minimum of 3 dscm per run. |

<sup>a</sup>If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provision of §63.7515 are met. For all other pollutants that do not contain a footnote “a”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

<sup>b</sup>Incorporated by reference, see §63.14.
An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO₂ correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO₂ being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[80 FR 72834, Nov. 20, 2015]

Table 13 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After December 23, 2011, and Before April 1, 2013

<table>
<thead>
<tr>
<th>If your boiler or process heater is in this subcategory . . .</th>
<th>For the following pollutants . . .</th>
<th>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</th>
<th>Using this specified sampling volume or test run duration . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Units in all subcategories designed to burn solid fuel</td>
<td>a. HCl</td>
<td>0.022 lb per MMBtu of heat input</td>
<td>For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.</td>
</tr>
<tr>
<td></td>
<td>b. Mercury</td>
<td>8.6E-07 lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 collect a minimum of 4 dscm.</td>
</tr>
<tr>
<td>2. Pulverized coal boilers designed to burn coal/solid fossil fuel</td>
<td>a. Carbon monoxide (CO) (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.8E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>3. Stokers designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.8E-02 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>4. Fluidized bed units designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>5. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel</td>
<td>a. CO (or CEMS)</td>
<td>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
</tbody>
</table>
If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . . |
---|---|---|---|
| | b. Filterable PM (or TSM) | 1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input) | Collect a minimum of 3 dscm per run. |
6. Stokers/sloped grate/others designed to burn wet biomass fuel | a. CO (or CEMS) | 620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (410 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
7. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel | a. CO | 460 ppm by volume on a dry basis corrected to 3 percent oxygen | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
8. Fluidized bed units designed to burn biomass/bio-based solids | a. CO (or CEMS) | 230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 9.8E-03 lb per MMBtu of heat input; or (8.3E-05 lb per MMBtu of heat input) | Collect a minimum of 3 dscm per run.* |
9. Suspension burners designed to burn biomass/bio-based solids | a. CO (or CEMS) | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 5.1E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids | a. CO (or CEMS) | 810 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average) | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 3.6E-02 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
11. Fuel cell units designed to burn biomass/bio-based solids | a. CO | 910 ppm by volume on a dry basis corrected to 3 percent oxygen | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input) | Collect a minimum of 2 dscm per run. |
12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS) | 1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average) | 1 hr minimum sampling time. |
<table>
<thead>
<tr>
<th>If your boiler or process heater is in this subcategory . . .</th>
<th>For the following pollutants . . .</th>
<th>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</th>
<th>Using this specified sampling volume or test run duration . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>13. Units designed to burn liquid fuel</td>
<td>a. HCl</td>
<td>1.2E-03 lb per MMBtu of heat input</td>
<td>For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
<tr>
<td></td>
<td>b. Mercury</td>
<td>4.9E-07 lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 collect a minimum of 4 dscm.</td>
</tr>
<tr>
<td>14. Units designed to burn heavy liquid fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (18 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>1.1E-03 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>15. Units designed to burn light liquid fuel</td>
<td>a. CO (or CEMS)</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen; or (60 ppm by volume on a dry basis corrected to 3 percent oxygen, 1-day block average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
</tr>
<tr>
<td>16. Units designed to burn liquid fuel that are non-continental units</td>
<td>a. CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test; or (91 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-hour rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
<tr>
<td>17. Units designed to burn gas 2 (other) gases</td>
<td>a. CO</td>
<td>130 ppm by volume on a dry basis corrected to 3 percent oxygen</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td></td>
<td>b. HCl</td>
<td>1.7E-03 lb per MMBtu of heat input</td>
<td>For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.</td>
</tr>
<tr>
<td></td>
<td>c. Mercury</td>
<td>7.9E-06 lb per MMBtu of heat input</td>
<td>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 collect a minimum of 3 dscm.</td>
</tr>
<tr>
<td></td>
<td>d. Filterable PM (or TSM)</td>
<td>6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
</tbody>
</table>

*aIf you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit and you are not required to conduct testing for CEMS or CPMS monitor certification, you can skip testing according to §63.7515 if all of the other provision of
§63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

\( ^b \) Incorporated by reference, see §63.14.

\( ^c \) An owner or operator may request an alternative test method under §63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO\(_2\) correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO\(_2\) being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal and Significant Source Modification

Source Description and Location

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>Tate &amp; Lyle Lafayette South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location:</td>
<td>3300 US 52 S, Lafayette, Indiana 47905-7977</td>
</tr>
<tr>
<td>County:</td>
<td>Tippecanoe</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2046 (Wet Corn Milling)</td>
</tr>
<tr>
<td>Significant Source Modification No.:</td>
<td>157-41643-00033</td>
</tr>
<tr>
<td>Permit Renewal No.:</td>
<td>TV 157-40694-00033</td>
</tr>
<tr>
<td>Permit Reviewer:</td>
<td>Doug Logan</td>
</tr>
</tbody>
</table>

On November 13, 2018, Tate & Lyle Lafayette South 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 Tate & Lyle Lafayette South relating to the operation of a stationary corn wet milling plant. Tate & Lyle Lafayette South was issued its first Part 70 Operating Permit Renewal (T157-27033-00033) on August 14, 2014. On July 9, 2019, Tate & Lyle Lafayette South submitted an application for a Significant Source Modification regarding construction of a cogeneration system and shutting down the coal-fired boiler. Operating approval for the new units that are the subject of the SSM application will be incorporated into the renewal.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) Corn Receiving and Handling Area, consisting of:

1. One (1) Corn Receiving (Corn Unloading Dust Collector), identified as Unit ID LA-1, constructed in 1977 (modified in 1995), with a baghouse (531001) for particulate control, exhausting to stack 1.

2. One (1) Corn Silo (Elevator Dust Collector), identified as Unit ID LA-2, constructed in 1977 (modified in 1995), with a baghouse (531003) for particulate control, exhausting to stack 2.

3. Twelve (12) Corn Storage Silos, identified as Unit ID LA-78, constructed in 1977, with a total grain storage capacity of 543,000 bushels, with no emission control device, exhausting to stack 57.

(b) Corn Steeping and Milling Area, consisting of:

1. One (1) South Pre-Steep Aspiration, identified as Unit ID LA-62A, constructed in 1995, with no emission control device, exhausting to stack 40.

2. One (1) North Pre-Steep Aspiration, identified as Unit ID LA-62B, constructed in 1995, with no emission control device, exhausting to stack 41.

3. One (1) Millhouse Aspiration Process, identified as Unit ID LA-70, constructed in 1977 (modified in 1995), with a scrubber (LAC-70) for SO2 and VOC control, exhausting to stack 4.
Feed House and Boiler House Area, consisting of:

1. One (1) natural gas/No. 2 fuel oil fired Zurn Boiler, identified as Unit ID LA-44, constructed in 1977, with a maximum heat input of 227 MMBtu/hr, with no emission control device, exhausting to stack 34.

   Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-44 is considered part of an existing affected source.

2. One (1) coal fired Riley Stoker Boiler, identified as Unit ID LA-45, constructed in 1977, with a maximum heat input of 239 MMBtu/hr, with a multiclone (539113) and an electrostatic precipitator (539115) for particulate control, with a scrubber (LAC-68) installed in 2015 for particulate, SO2, and HCl control, exhausting to stack 4.

   Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-45 is considered an existing affected source.

3. One (1) natural gas fired Cleaver Brooks Boiler, identified as Unit ID LA-46, constructed in 1980, with a maximum heat input of 49 MMBtu/hr, with no emission control device, exhausting to stack 5.

   Under the NESHAP, 40 CFR 63, Subpart DDDDD, LA-46 is considered part of an existing affected source.

4. One (1) natural gas/No. 2 fuel oil direct fired Fiber Dryer, identified as Unit ID LA-8, constructed in 1977 (modified in 1995 and 2004), with a maximum heat input of 58 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO2, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

5. One (1) natural gas/No. 2 fuel oil direct fired DSLC Dryer, identified as Unit ID LA-17A, constructed in 1977 (modified in 1995 and 2007), with a maximum heat input of 45 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO2, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

6. One (1) natural gas direct fired Gluten Dryer, identified as Unit ID LA-15, constructed in 1995, with a maximum heat input of 52 MMBtu/hr, using low NOx burners, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-67) for particulate, SO2, and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

7. One (1) steam heated Germ RST Pre-Dryer, identified as Unit ID LA-60, constructed in 1995, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-69) for particulate, SO2, and VOC control, with VOC emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

8. One (1) natural gas/No. 2 fuel oil direct fired GR Dryer, identified as Unit ID LA-47, constructed in 1977 (modified in 1995), with a maximum heat input of 55 MMBtu/hr, with an integral product collector/cyclone providing particulate control, with a scrubber (LAC-
69) for particulate and VOC control, with VOC and CO emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(9) One (1) steam heated Germ RST Finish Dryer No.3, identified as Unit ID LA-53, constructed in 1991 (modified in 1995), with a cyclone (not integral) for particulate control, with a scrubber (LAC-69) for particulate and VOC control, with VOC emissions also controlled by two or more RTOs (LAC-600, LAC-601, and/or LAC-602), exhausting to stack 4.

(10) One (1) Feedhouse Aspiration System, identified as Unit ID LA-71, constructed in 1977 (modified in 1995), with a scrubber (LAC-71) for SO₂ and VOC control, exhausting to stack 4.

(11) One (1) Feed Cooler and Cyclone, identified as Unit ID LA-17B, constructed in 1977 (modified in 1995), with an integral product collector/cyclone (534338) and scrubber (LAC-17B) for particulate control, exhausting to stack 4.

(12) One (1) Cracked Corn to GR Conveyor Transfer Cyclone, identified as Unit ID LA-43, constructed in 1977 (modified in 1995), with an integral product collector/cyclone (LAC-43) and a scrubber (LAC-17B) for particulate control, exhausting to stack 4.

(13) Three (3) natural gas fired regenerative thermal oxidizers, identified as LAC-600, LAC-601, and LAC-602, constructed in 2015, controlling VOC and CO emissions from multiple units, with a heat input capacity of 16 MMBtu/hr natural gas, exhausting to stack 4.

(d) Feed Products Storage and Loadout Area, consisting of:

(1) One (1) Cracked Corn Bin, identified as Unit ID LA-22, constructed in 1977, with a baghouse (LAC-22) for particulate control, exhausting to stack 3.

(2) One (1) Gluten Airveyor System, identified as Unit ID LA-21, constructed in 1977, with a baghouse (LAC-21) for particulate control, exhausting to stack 10.

(3) One (1) Germ Cooler Airveyor/Germ Loadout Bin, identified as Unit ID LA-18, constructed in 1977, with a baghouse (LAC-18) for particulate control, exhausting to stack 11.

(4) One (1) Gluten Loadout, identified as Unit ID LA-21B, constructed in 2004, with a baghouse (LAC-21B) for particulate control, exhausting to stack 9.

(5) One (1) Pellet Cooler #1, identified as Unit ID LA-79, constructed in 2004, with a cyclone (LAC-79) (not integral) for particulate control, exhausting to stack 58.

(6) One (1) Combo Pellet Cooler, identified as Unit ID LA-63, constructed in 1995 (modified in 2004), with a cyclone (LAC-63) (not integral) for particulate control, exhausting to stack 42.

(7) One (1) Pellet Cooler #4, identified as Unit ID LA-80, constructed in 2004, with a cyclone (LAC-80) (not integral) for particulate control, exhausting to stack 59.

(8) One (1) Pellet Cooler #5, identified as Unit ID LA-81, constructed in 2004, with a cyclone (LAC-81) (not integral) for particulate control, exhausting to stack 60.

(9) One (1) Pellet Storage Bin, identified as Unit ID LA-64, constructed in 1995 (modified in 2004), with an integral baghouse (LAC-64) for particulate control, exhausting to stack 43.
(10) One (1) Hammermill Aspiration Process, identified as Unit ID LA-77, constructed in 2000 (modified in 2004), with a scrubber (LAC-77) for particulate control, exhausting to stack 54.

(11) One (1) Feed Dump Aspiration System, identified as Unit ID LA-83, constructed in 2004, with a baghouse (LAC-83) for particulate control, exhausting to stack 62.

(e) Refinery Area, consisting of:

(1) One (1) Mud Centrifuges Vent #1, identified as Unit ID LA-72, constructed in 1977, with no emission control device, exhausting to stack 46.

(2) One (1) Mud Centrifuges Vent #2, identified as Unit ID LA-73, constructed in 1977, with no emission control device, exhausting to stack 47.

(3) One (1) Mud Centrifuges Vent #3, identified as Unit ID LA-74, constructed in 1977, with no emission control device, exhausting to stack 53.

(4) One (1) Jets Foam Trap, identified as Unit ID LA-75, constructed in 1977 (modified in 2000), with no emission control device, primarily exhausting to a heat recovery system, exhausting to stack 48 when not being routed through a heat recovery system.

(5) One (1) Soda Ash Unloading and Storage, identified as Unit ID LA-29, constructed in 1977 (modified in 1995), with a scrubber (LAC-29) for particulate control, exhausting to stack 19.

(6) Two (2) Hydrochloric Acid Storage Tanks, identified as Unit ID LA-41, constructed in 1977 (modified in 1995), with a scrubber (LAC-41) for voluntary HCl control, exhausting to stack 32.

(7) One (1) Hydrochloric Acid Supply Head Tank, identified as Unit ID LA-76, constructed in 1977 (modified in 1995), with a scrubber (LAC-76) for voluntary HCl control, exhausting to stack 50.

(8) One (1) Cation IX Drain Tank, identified as Unit ID LA-65A, constructed in 1977, with a scrubber (LAC-65A) for voluntary HCl control, exhausting to stack 51.

(9) One (1) Filter Aid Rail/Truck Unloading to Storage Bin, identified as Unit ID LA-31, constructed in 1977, approved in 2018 to replace baghouse (LAC-31A) with baghouse (LAC-31) for particulate control, exhausting to stack 20.

(10) One (1) Filter Aid Transfer from Storage Bins to Weighing Hopper, identified as Unit ID LA-32, constructed in 1977, with a baghouse (LAC-32) for particulate control, exhausting to stack 21.

(11) One (1) MBS Aspiration System, identified as Unit ID LA-61, constructed in 1977 (modified in 1995), with a scrubber (LAC-61) for SO2 control, exhausting to stack 49.

(12) One (1) natural gas/No. 2 fuel oil fired Carbon Reactivation Furnace, identified as Unit ID LA-28, constructed in 1977, with a maximum heat input of 22 MMBtu/hr, with a scrubber (LAC-28) for particulate control, exhausting to stack 33 and then to stack 33A.
(13) One (1) Krystar Dryer/Cooler System No. 1, identified as Unit ID LA-51, constructed in 1987 (modified in 2007 and 2015), with two integral cyclones/product collectors (53L605) and a wet scrubber (LAC-51) for particulate control, exhausting to stack 35.

(14) One (1) natural gas-fired Carbon Reactivation Furnace, identified as Unit ID LA-28B, constructed in 2007, with a maximum heat input of 15 MMBtu/hr, with a wet scrubber (LAC-28B) for particulate and SO$_2$ control, with an afterburner (LAC-28BB) for VOC and CO for control, exhausting to stack 33B and then to stack 33A.

(15) One (1) Spent Filter Aid Aspiration System, identified as LA-52, approved in 2014 for installation, with a baghouse (LAC-52) for particulate control, exhausting to stack 52, with emissions from:

(A) One (1) Filter Aid Mixer, identified as 526302.

(B) One Filter Aid Mixer Box Discharge Conveyor, identified as 566303.

(16) One (1) Krystar Dryer/Cooler System No. 2, identified as Unit ID LA-51A, approved in 2015 for construction, with two cyclones/product collectors and a wet scrubber (LAC-51A) for particulate control, exhausting to stack 35A, with emissions from:

(A) One (1) dryer/cooler, identified as Krystar Dryer/Cooler No. 2 (47L6XX), approved in 2015 for construction.

(B) One (1) Sweco aspiration system, with emissions from:

(i) Three (3) Sweco units, identified as Krystar Sweco No.1 (51L7XX), Krystar Sweco No.2 (51L7XX), and Krystar Sweco No.3 (51L7XX), approved in 2015 for construction.

(17) One (1) bagger aspiration system, servicing both Krystar Dryer/Cooler System No. 1 and Krystar Dryer/Cooler System No. 2, with emissions from:

(A) One (1) existing bagger, identified as Tote Bagger (59L710).

(B) One (1) bagger, identified as Bagger (59L735), approved in 2015 for construction.

(Ci) One (1) bagger head hopper, identified as Bagger Head Hopper (45L732), approved in 2015 for construction.

Note: The bagger aspiration system can be routed to either dryer/cooler system, No. 1 or No. 2. Normal practice will be to route the bagger system to dryer/cooler No. 1.

(18) One (1) Krystar Transportation Aspiration System, identified as Unit ID LA-51B, approved in 2015 for construction, with a wet scrubber (LAC-51B) for particulate control, exhausting to stack 35B, with emissions from:

(A) One (1) existing receiver, identified as Dense Phase Receiver (43L44).

(B) One (1) existing bin, identified as Scalper Receiver Bin (45L707).

(C) One (1) bin, identified as Scalper Receiver Bin (45L730), approved in 2015 for construction.
(D) One (1) receiver, identified as Sweco Receiver (45L7XX), approved in 2015 for construction.

(E) Three (3) bins, identified as Product Bin No. 1 (45L7XX), Product Bin No. 2 (45L7XX), and Product Bin No. 3 (45L7XX), approved in 2015 for construction.

(f) Coal and Ash Storage and Handling Area, consisting of:

1. One (1) Coal Unloading Building Aspiration System, identified as Unit ID LA-33, constructed in 1977, with a baghouse (LAC-33) for particulate control, exhausting to stack 22.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-33 is considered an affected facility.

2. One (1) Crusher and Transfer Building Aspiration System, identified as Unit ID LA-34, constructed in 1977, with a baghouse (LAC-34) for particulate control, exhausting to stack 23.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-34 is considered an affected facility.

3. One (1) Coal Storage Silos Top Aspiration System, identified as Unit ID LA-35, constructed in 1977, with a baghouse (LAC-35) for particulate control, exhausting to stack 24.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-35 is considered an affected facility.

4. One (1) Coal Storage Silos Bottom Aspiration System, identified as Unit ID LA-36, constructed in 1977, with a baghouse (LAC-36) for particulate control, exhausting to stack 25.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-36 is considered an affected facility.

5. One (1) Utility Building Aspiration System #1, identified as Unit ID LA-37, constructed in 1977, with a baghouse (LAC-37) for particulate control, exhausting to stack 26.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-37 is considered an affected facility.

6. One (1) Utility Building Aspiration System #2, identified as Unit ID LA-38, constructed in 1977, with a baghouse (LAC-38) for particulate control, exhausting to stack 27.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-38 is considered an affected facility.

7. One (1) Coal Silo Aspiration System, identified as Unit ID LA-55, constructed in 1977, with a rotoclone (LAC-55) for particulate control, exhausting to stack 28.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-55 is considered an affected facility.

8. One (1) Coal Bunkers Aspiration, identified as Unit ID LA-56, constructed in 1977, with a rotoclone (LAC-56) for particulate control, exhausting to stack 29.

   Under the NSPS, 40 CFR 60, Subpart Y, LA-46 is considered an affected facility.

9. One (1) Coal Ash Transfer System, identified as Unit ID LA-42A, constructed in 1977, with a baghouse (LAC-42A) for particulate control, exhausting to stack 30B.
(10) One (1) Ash Silo East Aeration Vent, identified as Unit ID LA-42B East, constructed in 1977 and approved in 2016 for modification, controlled by a bin vent, identified as LAC-42B East.

(11) One (1) Ash Silo West Aeration Vent, identified as Unit ID LA-42B West, constructed in 1977 and approved in 2016 for modification, controlled by a bin vent, identified as LAC-42B West.

## Insignificant Activities

The source also consists of the following insignificant activities:

(a) Combustion related activities, as follows:

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

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

   (B) Propane or liquefied petroleum gas or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) British thermal units per hour.

   (C) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing equal to or less than five-tenths percent (0.5%) sulfur by weight.

(2) Combustion source flame safety purging on startup.

(b) Fuel dispensing activities as follows:

(1) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons, as follows:

   (A) One (1) gasoline dispensing tank, with a maximum capacity of 550 gallons.

(2) A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less, as follows:

   (A) One (1) diesel fuel dispensing tank, with a maximum capacity of 2,500 gallons.

   (B) One (1) diesel fuel dispensing tank, with a maximum capacity of 550 gallons.

   (C) One (1) kerosene tank, with a maximum capacity of 330 gallons.

(c) The following VOC and HAP storage containers:

(1) Vessels storing the following:

   (A) Lubricating oils.

   (B) Hydraulic oils.

   (C) Machining oils.

   (D) Machining fluids.

(d) Refractory storage not requiring air pollution control equipment.
(e) Equipment used exclusively for the following:

(1) Filling drums, pails, or other packaging containers with the following:

   (A) Lubricating oils.
   (B) Greases.

(f) Production related activities, including the following:

(1) Application of the following as temporary protective coatings:

   (A) Oils.
   (B) Greases.
   (C) Lubricants.
   (D) Nonvolatile material

(2) Cleaners and solvents characterized as having a vapor pressure equal to or less than:

   (A) two (2.0) kilo Pascals (fifteen (15) millimeters of mercury or three-tenths (0.3)
       pound per square inch) measured at thirty-eight (38) degrees Centigrade (one
       hundred (100) degrees Fahrenheit); or
   (B) seven-tenths (0.7) kilo Pascal (five (5) millimeters of mercury or one-tenth (0.1)
       pound per square inch) measured at twenty (20) degrees Centigrade (sixty-eight
       (68) degrees Fahrenheit); the use of which, for all cleaners and solvents
       combined, does not exceed one hundred forty-five (145) gallons per twelve (12)
       months.

(3) Closed loop heating and cooling systems.

(g) Water based activities, including the following:

(1) Activities associated with the treatment of wastewater streams with an oil and grease
    content less than or equal to one percent (1%) by volume.
(2) Any operation using aqueous solutions containing less than or equal to one percent (1%)
    by weight of VOCs excluding HAPs.
(3) Water based adhesives that are less than or equal to five percent (5%) by volume of
    VOCs excluding HAPs.
(4) Noncontact cooling tower systems with either of the following:

   (A) Forced and induced draft cooling tower systems not regulated under a NESHAP.

(h) Repair activities, including the following:

(1) Replacement or repair of electrostatic precipitators, bags in baghouses, and filters in
    other air filtration equipment.
(2) Heat exchanger cleaning and repair.
(3) Process vessel degassing and cleaning to prepare for internal repairs.

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

(j) Conveyors as follows:

(1) Underground conveyors.
(k) Coal bunker and coal scale exhausts and associated dust collector vents.

Under the NSPS, 40 CFR 60, Subpart Y, coal storage systems, transfer, and loading systems are affected facilities.

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

1. Purging of gas lines.
2. Purging of vessels.

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

1. Tanks.
2. Fluid handling equipment.

(n) Blowdown for the following:

1. Boiler.
2. Cooling tower.
3. Compressors.

(o) Activities associated with emergencies as follows:

1. On-site fire training approved by IDEM.
2. Emergency generators as follows:

   (A) One (1) diesel-fueled, compression-ignition emergency generator, identified as LA-603, manufactured and installed in 1976, with a site rating of 938 HP.

   Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the emergency generator is considered an existing affected source.

3. Stationary fire pump engines as follows:

   (A) One (1) diesel-fueled, compression-ignition emergency fire pump, identified as LA-604, manufactured and installed in 1976, with a site rating of 258 HP.

   Under the NESHAP, 40 CFR 63, Subpart ZZZZ, the emergency fire pump is considered an existing affected source.

(p) Vents from ash transport systems not operated at positive pressure.

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

(r) An emission unit or activity whose potential uncontrolled emissions meet the exemption levels specified in 326 IAC 2-1.1-3(e)(1) or the exemption levels specified in the following, whichever is lower:

- For lead or lead compounds measured as elemental lead, the exemption level is six-tenths (0.6) ton per year or three and twenty-nine hundredths (3.29) pounds per day.
- For carbon monoxide (CO), the exemption limit is twenty-five (25) pounds per day.
For sulfur dioxide, the exemption level is five (5) pounds per hour or twenty-five (25) pounds per day.

For VOC, the exemption limit is three (3) pounds per hour or fifteen (15) pounds per day.

For nitrogen oxides (NOx), the exemption limit is five (5) pounds per hour or twenty-five (25) pounds per day.

For PM_{10} or direct PM_{2.5}, the exemption level is either five (5) pounds per hour or twenty-five (25) pounds per day.

As follows:

(1) Light Steepwater Tank #1, exhausting to stack 1.
(2) Light Steep/Heavy SW Surge Water #2, exhausting to stack 2.
(3) Steephouse Syrup Evap MR #1 - Condensate Receiver #1 and 2, exhausting to stack 3.
(4) Steephouse Process Water Tank, exhausting to stack 4.
(5) Steepwater Finisher Intercondenser Vent (HSW Triple Vent), exhausting to stack 5.
(6) Steepwater Rail Loadout/Unloading (3 railcars stations), exhausting to stack 6.
(7) Steepwater Truck Loadout, exhausting to stack 7.
(8) Starch/ Gluten Loadout, exhausting to stack 8.
(9) Starch Tank #3 (West), exhausting to stack 9.
(10) Starch Tank #2 (East), exhausting to stack 10.
(11) Heavy Steepwater Tank #2, exhausting to stack 11.
(12) Salt Storage Tank, exhausting to stack 12.
(14) Gluten Slurry Tank, exhausting to stack 14.
(15) Waste Heat Evaporator Hot Water Tank, exhausting to stack 15.
(16) Centrifuge Tanks Vent Fan, exhausting to stack 16.
(17) Centrifuge Supply Tank, exhausting to stack 17.
(18) Four (4) Carbon Charge Tanks
(19) 6 Line Pre-Thinning Surge and Pre-Thinning Tanks Vent, exhausting to stack 18.
(20) 6 Line Pre-Thin Tank Vent, exhausting to stack 19.
(21) 6 Line Enzyme Liquefaction Reactor (1st stage), exhausting to stack 20.
(22) 6 Line Enzyme Liquefaction Reactor (2nd stage), exhausting to stack 21.
(23) 7 Line Pre-Thinning Surge and Pre-Thinning Tanks Vent, exhausting to stack 22.
(24) 7 Line Pre-Thin Tank Vent, exhausting to stack 23.
(25) 7 Line Enzyme Liquefaction Reactor (1st stage), exhausting to stack 24.
(26) 7 Line Enzyme Liquefaction Reactor (2nd stage), exhausting to stack 25.
(27) Refinery Rotovac - 6 line Filtrate Vacuum Pump, exhausting to stack 26.
(28) Refinery Rotovac - 7 line Filtrate Vacuum Pump, exhausting to stack 27.
(29) Saccharification Tank 10, exhausting to stack 28.
(30) Saccharification Tank 11, exhausting to stack 29.
(31) Pre-Strainer Surge Tank, exhausting to stack 30.
(32) Saccharification Tank 12, exhausting to stack 31.
(33) Saccharification Tank 13, exhausting to stack 32.
(34) Saccharification Tank 14, exhausting to stack 33.
(35) Saccharification Tank 15, exhausting to stack 34.
(36) 68 Finish Evaporator Main Barometric Steam Ejector Vent, exhausting to stack 35.
(37) 68/78 Heat Reclaim SR 95 - 180/205 deg F Heat Exchangers Vents, exhausting to stack 36.
(38) Carbon Furnace Shaft Cooling Air Vent, exhausting to stack 37.
(39) Boiler Water Reclaim Heat Exchangers Vent, exhausting to stack 38.
(40) 75 Syrup Evaporator (MR) Condensate Receiver, exhausting to stack 39.
(41) 65 Syrup Evaporator (MR) Condensate Receiver (vented to 75 tank normally), exhausting to stack 40.
(42) Jet Vapor Condensate Tank & Refinery Hot Well Tank, exhausting to stack 41.
(43) 68 & 78 Evaps Noncondensibles & Hot Well Tank Vent, exhausting to stack 42.
(44) 68 Evap Preheater Heat Reclaim Heat Exchanger Vent, exhausting to stack 43.
(45) Hot Water Tank, exhausting to stack 44.
(46) ISOM (Syrup) Surge Tank, exhausting to stack 45.
(47) 5500 (Syrup) Storage Tank, exhausting to stack 46.
(48) 5500 (Syrup) Storage Tank, exhausting to stack 47.
(49) Resin Tank Scrubber Vent, exhausting to stack 48.
(50) 5500 Steam Condensate Weir, exhausting to stack 49.
(51) Soda Ash Head Tank, exhausting to stack 52. (out of service)
(52) Starch Vapor Preheater Non Condensibles Vent, exhausting to stack 53.
(53) Starch Preheater Seal Tank, exhausting to stack 54.
(54) Krystar Steam Condensate Weir, exhausting to stack 55.
(55) Krystar Evaporator Non-Condensibles Vents, exhausting to stack 56.
(56) South Condenser Vacuum Pump Separator Condenser Vent, exhausting to stack 57.
(57) North Condenser Vacuum Pump Separator Condenser Vent, exhausting to stack 58.
(58) Laboratory Fume Hood Vents (7 total), exhausting to stack 70.
(59) No. 2 Fuel Oil Storage Tank, constructed in 1977, with a capacity of 200,000 gallons, exhausting to stack 60.
(60) Germ Day Bin, exhausting to stack 61.
(61) Flammable Liquids Storage Vent (laboratory), exhausting to stack 69.
(62) Ejector Service Condenser Vents (46L215 & 46L219), exhausting to stack 62.
(63) Vertical Transfer Pump Vent, exhausting to stack 63.
(64) Seed Transfer Pump Vent, exhausting to stack 65.
(65) Fractionation IX Relief Vent, exhausting to stack 66.
(66) Sub IX Relief Vent, exhausting to stack 67.
(67) Crystalline Dextrose Fractionization Vacuum Pump, exhausting to stack 68.
(68) One (1) sulfur burning system, approved in 2018 for construction to replace the existing sulfur dioxide storage system utilized in providing sulfur dioxide to the processes, SO₂ adsorption and the acid making towers, will be controlled by the existing Millhouse Aspiration Process Scrubber (LAC-70), consisting of:

(A) sulfur burner
(B) molten sulfur storage tank
(C) SO₂ adsorption tower
(D) acid making tower

### Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T157-27033-00033 on August 14, 2014. 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>Significant Source Modification</td>
<td>157-35435-00033</td>
<td>August 4, 2015</td>
</tr>
<tr>
<td>Significant Permit Modification</td>
<td>157-35550-00033</td>
<td>August 19, 2015</td>
</tr>
<tr>
<td>Significant Permit Modification</td>
<td>157-36348-00033</td>
<td>April 14, 2016</td>
</tr>
<tr>
<td>Administrative Amendment</td>
<td>157-37579-00033</td>
<td>October 28, 2016</td>
</tr>
<tr>
<td>Significant Source Modification</td>
<td>157-40283-00033</td>
<td>October 24, 2018</td>
</tr>
<tr>
<td>Significant Permit Modification</td>
<td>157-40323-00033</td>
<td>November 15, 2018</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.
"Integral Part of the Process" Determination

(a) Part 70 Operating Permit No. T157-6008-00033, issued on June 28, 2004, IDEM, OAQ previously determined that the control devices listed in the table below are not integral to the milling of wet corn.

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Process Description</th>
<th>Control Device</th>
<th>Control ID</th>
<th>Stack ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-18</td>
<td>Germ Cooler Airveyor/Germ Loadout Bin</td>
<td>baghouse</td>
<td>LAC-18</td>
<td>11</td>
</tr>
<tr>
<td>LA-21</td>
<td>Gluten Airveyor System</td>
<td>baghouse</td>
<td>LAC-21</td>
<td>10</td>
</tr>
<tr>
<td>LA-22</td>
<td>Cracked Corn Bin</td>
<td>baghouse</td>
<td>LAC-22</td>
<td>3</td>
</tr>
<tr>
<td>LA-31¹</td>
<td>Filter Aid Rail/Truck Unloading to Storage Bin</td>
<td>baghouse</td>
<td>LAC-31</td>
<td>20</td>
</tr>
<tr>
<td>LA-32</td>
<td>Filter Aid Transfer from Storage Bins to Weighing Hopper</td>
<td>baghouse</td>
<td>LAC-32</td>
<td>21</td>
</tr>
<tr>
<td>LA-37</td>
<td>Utility Building Aspiration System #1</td>
<td>baghouse</td>
<td>LAC-37</td>
<td>26</td>
</tr>
<tr>
<td>LA-38</td>
<td>Utility Building Aspiration System #2</td>
<td>baghouse</td>
<td>LAC-38</td>
<td>27</td>
</tr>
</tbody>
</table>

1. Filter Aid Truck Unloading to West Storage Bin (LA-31A) controlled by baghouse LAC-31A and Filter Aid Truck Unloading to East Storage Bin (LA-31B) controlled by baghouse LAC-31B prior to SSM 157-40283-00033, issued October 22, 2018.

(b) As part of Significant Source Modification No. 157-35435-00033, issued on August 4, 2015, IDEM, OAQ did not find that the two (2) cyclones/product collectors and wet scrubber (LAC-51A) controlling emissions from the Krystar Dryer/Cooler System No.2 (LA-51A) or the wet scrubber (LAC-51B) controlling emissions from the Krystar Transportation Aspiration System (LA-51B) were integral to the named processes.

(c) Part 70 Operating Permit No. T157-6008-00033, issued on June 28, 2004, IDEM, OAQ previously determined that the control devices listed in the table below are integral to the milling of wet corn.

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Process Description</th>
<th>Control Device</th>
<th>Control ID</th>
<th>Stack ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-8</td>
<td>Fiber Dryer</td>
<td>cyclone</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>LA-15</td>
<td>Gluten Dryer</td>
<td>cyclone</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>LA-17A</td>
<td>DSLC Dryer</td>
<td>cyclone</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>LA-17B</td>
<td>Feed Cooler and Cyclone</td>
<td>cyclone</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>LA-47</td>
<td>GR Dryer</td>
<td>cyclone</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>LA-51</td>
<td>Krystar Dryer/Cooler No. 1</td>
<td>cyclones (2)</td>
<td>53L605</td>
<td>35</td>
</tr>
<tr>
<td>LA-60</td>
<td>Germ RST Pre-Dryer</td>
<td>cyclone</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

(d) As part of Significant Source Modification No. 157-16882-00033, issued on December 5, 2003, IDEM, OAQ previously determined that the baghouse (LAC-64) controlling emissions from the pellet storage bin (LA-64, stack 43) is integral to the process for the pellet storage bin.

IDEM, OAQ is not reevaluating these integral justifications at this time. Therefore, the potential particulate matter (PM, PM₁₀, and PM₂.₅) emissions from the processes named in paragraphs (c) and (d) will continue to be calculated after consideration of the baghouse and cyclones for purposes of determining permitting level and PSD applicability. Operating conditions in the proposed permit will specify that the baghouse and cyclones shall operate at all times when the named processes are in operation.

**Enforcement Issue**

There are no enforcement actions pending.
See Appendix A of this document for detailed emission calculations.

### County Attainment Status

The source is located in Tippecanoe County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>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>Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.¹</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>Unclassifiable or attainment 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>

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOₓ) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOₓ emissions are considered when evaluating the rule applicability relating to ozone. Tippecanoe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOₓ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM₂.₅
Tippecanoe 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
Tippecanoe 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

This source consists of a corn wet milling operation and includes fossil fuel-fired steam boilers with a combined capacity of more than two hundred fifty million (250,000,000) British thermal units per hour of heat input, which support the corn wet milling operations.

(1) The wet corn milling operation is not one of twenty-eight (28) source categories. Therefore, the fugitive emissions from the source are not counted towards determination of PSD, Emission Offset, and Part 70 Permit applicability, except as provided in (3) and (4) below.

(2) The grain elevator at the source does not meet the definition of a grain storage elevator (> ca. 1,000,000 bushels) or a grain terminal elevator (> ca. 2,500,000 bushels), as
defined in 40 CFR 60.301, because the source has a permanent grain storage capacity of 530,000 bushels. Therefore, the source is not subject to 40 CFR 60, Subpart DD. Since this source does not meet the source category applicability in 40 CFR 60, Subpart DD, it is not considered a source category which, as of August 7, 1980, is regulated under section 111 or 112 of the Clean Air Act; and therefore, fugitive emissions from the grain elevator are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

(3) The fossil fuel-fired steam boilers with a total heat input rating of greater than 250 MMBtu/hr are considered one of the twenty-eight (28) source categories, based on the EPA guidance for "nested activities". Since the boilers are not the primary activity at the source only fugitive emissions from these boilers are counted towards PSD, Emission Offset, and Part 70 Permit applicability. (See U.S. EPA, Region 5, Guidance Memo, dated March 6, 2003 to Janet McCabe, of the Office of Air Quality, Indiana Department of Environmental Management).

(4) There is an applicable New Source Performance Standard that was in effect on August 7, 1980 (40 CFR 60, Subpart Y: New Source Performance Standards for Coal Preparation Plants) at one of the activities at the source. Since the coal preparation operation is not the primary activity at the plant, only fugitive emissions associated with the coal preparation activity subject to this NSPS are counted toward the determination of PSD, Emission Offset, and Part 70 applicability. (See U.S. EPA, Region 5, Guidance Memo, dated March 6, 2003 to Janet McCabe, of the Office of Air Quality, Indiana Department of Environmental Management).

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**Greenhouse Gas (GHG) Emissions**

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at [http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf](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.

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**Unrestricted Potential Emissions**

This table reflects the unrestricted potential emissions of the source.

<table>
<thead>
<tr>
<th>Unrestricted Potential Emissions</th>
<th>Tons/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>Greater than 250</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>Greater than 250</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>Greater than 250</td>
</tr>
<tr>
<td>SO$_2$</td>
<td>Greater than 250</td>
</tr>
</tbody>
</table>
### Unrestricted Potential Emissions

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Tons/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{x}</td>
<td>Greater than 250</td>
</tr>
<tr>
<td>VOC</td>
<td>Greater than 250</td>
</tr>
<tr>
<td>CO</td>
<td>Greater than 250</td>
</tr>
<tr>
<td>Single HAP</td>
<td>Greater than 10</td>
</tr>
<tr>
<td>Total HAP</td>
<td>Greater than 25</td>
</tr>
</tbody>
</table>

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of PM\textsubscript{10}, PM\textsubscript{2.5}, SO\textsubscript{2}, NO\textsubscript{x}, VOC, and CO is equal to or greater than one hundred (100) tons per year, each. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) 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 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. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

### Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

### Proposed Modification

**Description of Proposed Modification**

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Tate & Lyle Ingredients Americas, LLC. on July 9, 2019, relating to the construction of a natural gas-fired cogeneration system. Once operational the new cogeneration system will replace the existing coal-fired boiler and associated coal handling operations.

The following is a list of the new emission units:

- A cogeneration system, approved in 2019 for construction, as follows:
  
  (1) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:

  (A) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

  Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #1 is subject to the subpart.
Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #1 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #1 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #1 is a new affected source.

(2) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:

(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

Under the NSPS, 40 CFR 60, Subpart KKKK, turbine #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart YYYY, turbine #2 is a new affected source.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

Under the NSPS, 40 CFR 60, Subpart KKKK, HRSG #2 is subject to the subpart.

Under the NESHAP, 40 CFR 63, Subpart DDDDD, HRSG #2 is a new affected source.

Source Status Prior to the Modification

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

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^1$</th>
<th>Combined HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet Mill Plant PTE (excluding fugitives)</td>
<td>438</td>
<td>484</td>
<td>356</td>
<td>1,252</td>
<td>197</td>
<td>306</td>
<td>486</td>
<td>&gt;10</td>
<td>&gt;25</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nested Boilers PTE (including fugitives from the nested source)</td>
<td>218</td>
<td>42.1</td>
<td>37.0</td>
<td>6,778</td>
<td>817</td>
<td>8.9</td>
<td>119.6</td>
<td>&gt;10</td>
<td>&gt;25</td>
</tr>
<tr>
<td>PSD Major Source Thresholds (1 of 28)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Source Wide PTE</td>
<td>656</td>
<td>526</td>
<td>393</td>
<td>8,030</td>
<td>1,014</td>
<td>315</td>
<td>606</td>
<td>&gt;10</td>
<td>&gt;25</td>
</tr>
</tbody>
</table>
The existing source consists of a wet mill plant which is the primary operation and nested boilers with a total heat input rating of greater than 250 MMBtu/hour. The wet mill plant is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1), while the nested boilers are considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

This existing source is a major source under PSD (326 IAC 2-2), because the PSD regulated pollutants PM, PM$_{10}$, PM$_{2.5}$, SO$_2$, NO$_X$, VOC, and CO are emitted from the entire source at a rate greater than 250 tons per year, each.

This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are equal to or greater than ten (10) tons per year for a single HAP and equal to or greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

These emissions are based upon TSD App B, SSM No. 157-40283-00033 issued on October 14, 2014.

**Permit Level Determination – Part 70**

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Source-Wide Emissions Before Modification (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process / Emission Unit</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>PSD Major Source</td>
</tr>
</tbody>
</table>

1 Single highest source-wide HAP, hydrogen chloride.

**PTE Before Controls of the New Emission Units (ton/year)**

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Combined HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbine #1</td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
<td>-</td>
<td>0.76</td>
</tr>
<tr>
<td>HRSG #1</td>
<td>1.48</td>
<td>12.42</td>
<td>12.42</td>
<td>0.56</td>
<td>79.58</td>
<td>4.30</td>
<td>31.83</td>
<td>-</td>
<td>1.47</td>
</tr>
<tr>
<td>Turbine #2</td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
<td>-</td>
<td>0.76</td>
</tr>
<tr>
<td>HRSG #2</td>
<td>1.48</td>
<td>12.42</td>
<td>12.42</td>
<td>0.56</td>
<td>79.58</td>
<td>4.30</td>
<td>31.83</td>
<td>-</td>
<td>1.47</td>
</tr>
<tr>
<td>Total PTE Before Controls of the New Emission Units:</td>
<td>8.37</td>
<td>54.69</td>
<td>54.69</td>
<td>3.10</td>
<td>421.06</td>
<td>10.30</td>
<td>95.18</td>
<td>-</td>
<td>4.48</td>
</tr>
</tbody>
</table>

1 PM$_{2.5}$ listed is direct PM$_{2.5}$.
2 Source-wide single highest HAP, hydrogen chloride.
Appendix A of this TSD reflects the detailed potential emissions of the modification.

(a) Approval to Construct

Pursuant to 326 IAC 2-7-10.5(g)(4), a Significant Source Modification is required because this modification has the potential to emit PM, PM$_{10}$, PM$_{2.5}$, and NOx at greater than or equal to twenty-five (25) tons per year, each.

(b) Approval to Operate

The Part 70 Operating Permit Renewal itself will grant the source the appropriate operating approval for the proposed modification. Therefore, a distinct significant permit modification will not be issued.

<table>
<thead>
<tr>
<th>Permit Level Determination – PSD Emissions Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Actual to Potential (ATP) Applicability Test</td>
</tr>
<tr>
<td>Since this project only involves the construction of new emissions units and/or emissions units considered new for this evaluation, an Actual to Potential (ATP) applicability test, specified in 326 IAC 2-2-2(d)(4), is used to determine if the project results in a Significant Emissions Increase.</td>
</tr>
<tr>
<td>(b) New Emissions Units Only</td>
</tr>
<tr>
<td>Pursuant to 326 IAC 2-2-1(t)(1), a new emissions unit is any emissions unit that is, or will be, newly constructed and that has existed for less than two (2) years from the date the emissions unit first operated.</td>
</tr>
<tr>
<td>(1) The following proposed emissions unit(s) are considered as new emissions units for this evaluation.</td>
</tr>
<tr>
<td>A cogeneration system, approved in 2019 for construction, as follows:</td>
</tr>
<tr>
<td>(A) Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:</td>
</tr>
<tr>
<td>(i) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.</td>
</tr>
<tr>
<td>(ii) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.</td>
</tr>
<tr>
<td>(B) Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:</td>
</tr>
<tr>
<td>(i) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion, using lean-premix staged combustion.</td>
</tr>
<tr>
<td>(ii) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.</td>
</tr>
</tbody>
</table>
(c) **Baseline Actual Emissions**
For a new emissions unit, the baseline actual emissions for purposes of determining the Emissions Increase that will result from the initial construction and operation of the unit shall equal zero (0) and thereafter, for all other purposes, shall equal the unit’s potential to emit.

(d) **Actual to Potential (ATP) Summary**
The Emissions Increase of the project is the sum of the difference between the potential to emit (PTE) from each new emissions unit following completion of the project and the baseline actual emissions of these units before the project.

\[
\text{ATP(new unit)} = \text{PTE(new unit)} - \text{Baseline Emissions(new unit)}
\]

See Appendix A of this Technical Support Document for detailed emission calculations.

<table>
<thead>
<tr>
<th>Process/Emissions Unit</th>
<th>PM</th>
<th>PM_{10}</th>
<th>PM_{2.5}</th>
<th>SO_{2}</th>
<th>NO_{x}</th>
<th>VOC</th>
<th>CO</th>
<th>GHGs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposed New Emission Units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbine #1</td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
<td>88,426</td>
</tr>
<tr>
<td>HRSG #1</td>
<td>1.48</td>
<td>12.42</td>
<td>12.42</td>
<td>0.56</td>
<td>79.58</td>
<td>4.30</td>
<td>31.83</td>
<td>94,185</td>
</tr>
<tr>
<td>Turbine #2</td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
<td>88,426</td>
</tr>
<tr>
<td>HRSG #2</td>
<td>1.48</td>
<td>12.42</td>
<td>12.42</td>
<td>0.56</td>
<td>79.58</td>
<td>4.30</td>
<td>31.83</td>
<td>94,185</td>
</tr>
<tr>
<td><strong>Project Emissions</strong></td>
<td>8.37</td>
<td>54.69</td>
<td>54.69</td>
<td>3.10</td>
<td>421.06</td>
<td>10.30</td>
<td>95.18</td>
<td>365,222</td>
</tr>
<tr>
<td>Significant emission rate</td>
<td>25</td>
<td>15</td>
<td>10</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>100</td>
<td>75,000</td>
</tr>
<tr>
<td>PE &gt; SER?</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>NA²</td>
</tr>
</tbody>
</table>

The project emissions for PM_{10}, PM_{2.5} and NOx are each above the applicable PSD significant thresholds. Therefore, the project is a significant emissions increase for PM_{10}, PM_{2.5} and NOx.

(e) **Netting Applicability Test**
The source performed a netting analysis, specified in 326 IAC 2-2-2(d)(1) and (d)(2), to demonstrate that the modification is not subject to PSD major review for the project PM_{10}, PM_{2.5} and NOx emissions. Under 326 IAC 2-2-1(ii), "net emissions increase" is defined as follows:

(ii) "Net emissions increase", with respect to any regulated NSR pollutant emitted by a major stationary source, means the following:

1. The amount by which the sum of the following exceeds zero (0):
   
   (A) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated under section 2(d) of this rule.
   
   (B) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this clause shall be determined as provided in subsection (e), except that subsection (e)(1)(C) and (e)(2)(D) shall not apply.
(2) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between the following:

(A) The date five (5) years before construction of the particular change commences.
(B) The date that the increase from the particular change occurs.

(3) An increase or decrease in actual emissions is creditable only if the department has not relied on the increase or decrease in actual emissions in issuing a permit to the source under 40 CFR Part 52.21* or this rule and the permit is in effect when the increase in actual emissions from the particular change occurs.

(4) An increase or decrease in actual emissions of sulfur dioxide, PM, or nitrogen oxides that occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.

(5) An increase in actual emissions is creditable only to the extent that a new level of actual emissions exceeds the old level.

(6) A decrease in actual emissions is creditable only to the extent that:

(A) the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
(B) it is enforceable as a practical matter at and after the time that actual construction on the particular change begins; and
(C) it has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

(7) An increase that results from the physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period not to exceed one hundred eighty (180) days.

(8) Subsection (b)(1) shall not apply for determining creditable increases and decreases.

For this netting analysis, the source has considered the project emissions increases described above (see ATP Summary), and identified contemporaneous increases and decreases associated with this project:
### Project Emissions Increase (tons/year)

<table>
<thead>
<tr>
<th>Process/Emissions Unit</th>
<th>PM</th>
<th>PM&lt;sub&gt;10&lt;/sub&gt;</th>
<th>PM&lt;sub&gt;2.5&lt;/sub&gt;</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>GHGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Emissions</td>
<td>8.37</td>
<td>54.69</td>
<td>54.69</td>
<td>3.10</td>
<td>421.06</td>
<td>10.30</td>
<td>95.18</td>
<td>365,222</td>
</tr>
</tbody>
</table>

#### Existing Emissions Units Operating for Less than 5 Years (Considered New for this Evaluation)

| New LA-31<sup>5</sup> | -   | 14.45          | 9.64            | -    | -    | -    | -    | -    |

#### Creditable Emissions Decreases<sup>6</sup>

| Utility building aspiration #2, LA-38 | -0.45 | -0.24 | -    | -    | -    | -    | -    |
| Utility building aspiration #1, LA-37 | -0.45 | -0.20 | -    | -    | -    | -    | -    |
| Coal ash transfer, LA-42A            | -0.69 | -0.32 | -    | -    | -    | -    | -    |
| Coal ash silo, LA-42B                | -0.10 | -0.03 | -    | -    | -    | -    | -    |
| Filter aid unloading, LA-31A & LA-31B| -0.03 | -0.02 | -    | -    | -    | -    | -    |
| Net Emissions Increase               | 7.70  | 7.92          | 20.67           | -    | -    | -    | -    |

#### Significant emission rate

- 25
- 15
- 10
- 40
- 40
- 40
- 100
- 75,000 CO<sub>2</sub>e

### Notes:

1. PM<sub>2.5</sub> shown is direct PM<sub>2.5</sub>
2. 75,000 tons per year threshold for CO2e is for determining whether the project is subject to regulation as defined at 326 IAC 2-2-1(zz), not a significant emissions increase as defined at 326 IAC 2-2-1(xx)
3. SSM 157-35435-00033
4. SSM 157-30513-00033, modified by SSM 157-35435-00033, PM<sub>10</sub> and PM<sub>2.5</sub> emissions of the spent filter aid aspiration system, LA-52, were aggregated with the PTE of the three RTO’s at the corrected heat input capacity.
5. SSM 157-40283-00033
6. December 2012 - November 2014 baseline period

### Conclusion

Pursuant to 326 IAC 2-2-2(d)(1), if a project causes a significant emission increase, it is a major modification only if it also results in a significant net emissions increase. The
Permittee has provided information as part of the application for this approval showing that, based on Actual to Projected Actual test in 326 IAC 2-2-2, this modification to an existing major PSD stationary source is not a major modification as defined at 326 IAC 2-2-1(dd) because the net emissions increase, as defined at 326 IAC 2-2-1(ii), of each PSD regulated pollutant is less than the PSD significant levels levels (i.e., the modification does not cause a net emissions increase). The applicant will be required to keep records and report in accordance with 326 IAC 2-2-8 (Prevention of Significant Deterioration (PSD) Requirements: Source Obligation).

<table>
<thead>
<tr>
<th>Process/Emissions Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>GHGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cogeneration Units LA-84 and LA-85</td>
<td>-</td>
<td>54.69</td>
<td>54.69</td>
<td>-</td>
<td>421.06</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Boiler LA-45 Baseline Actual Emissions</td>
<td>-</td>
<td>54.90</td>
<td>54.90</td>
<td>-</td>
<td>421</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Projected Actual</td>
<td>-</td>
<td>54.90</td>
<td>54.90</td>
<td>-</td>
<td>421</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ATPA LA-45</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Coal and Ash Storage and Handling Area Baseline Actual Emissions</td>
<td>-</td>
<td>13.93</td>
<td>6.82</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Projected Actual</td>
<td>-</td>
<td>13.93</td>
<td>6.82</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ATPA Coal and Ash Storage and Handling Area</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Project Emissions Increase (PEI) for Phase 1 (ATP – ATPA)</td>
<td>-</td>
<td>54.69</td>
<td>54.69</td>
<td>-</td>
<td>421.06</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Contemporaneous Changes Krystar expansion</td>
<td>-</td>
<td>-3.69</td>
<td>-1.61</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RTO Project</td>
<td>-</td>
<td>-3.32</td>
<td>-3.32</td>
<td>-</td>
<td>-20.61</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sulfur burner</td>
<td>-</td>
<td>-0.41</td>
<td>-0.41</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New LA-31</td>
<td>-</td>
<td>-14.45</td>
<td>-9.64</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Filter aid unloading, LA-31A &amp; LA-31B</td>
<td>-</td>
<td>0.03</td>
<td>0.02</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sum of Contemporaneous Changes</td>
<td>-</td>
<td>-21.84</td>
<td>-14.96</td>
<td>-</td>
<td>-20.61</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Significant emission rate (SER)</td>
<td>-</td>
<td>15</td>
<td>10</td>
<td>-</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transition Limits for LA-45, LA-84, and LA-85</td>
<td>-</td>
<td>47.84</td>
<td>49.73</td>
<td>-</td>
<td>440.44</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Transition Limits = PEI + Sum of Contemporaneous Changes + SER
Startup Transition Limitations

Pursuant to SSM No. 157-41643-00003, upon startup, as defined at 40 CFR 60.2, of either cogeneration unit, LA-84 or LA-85, the Permittee shall comply with the following limits:

(a) The total combined PM$_{10}$ emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 47.84 tons per twelve consecutive month period with compliance determined at the end of each month.

(b) The total combined PM$_{2.5}$ emissions from the coal and ash storage and handling area, coal-fired Riley Stoker boiler (LA-45), and cogeneration units (LA-84 and LA-85) shall be less than 49.73 tons per twelve consecutive month period with compliance determined at the end of each month.

(c) The total combined NOx emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 440.45 tons per twelve consecutive month period with compliance determined at the end of each month.

(d) The limits in paragraphs (a) - (c) shall cease to be effective after the date that the coal-fired Riley Stoker boiler, identified as LA-45, and related coal support operations and equipment are made incapable of operation.

Compliance with these limits, when combined with contemporaneous increases and decreases at the source, shall limit the net emissions increase from the Cogeneration Turbine Project to less than fifteen (15) tons of PM$_{10}$, ten (10) tons of PM$_{2.5}$, and forty (40) tons of NOx per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to SSM No. 157-41643-00003 for PM$_{10}$, PM$_{2.5}$, and NOx.

Transition limits are expressed in terms of the baseline emissions of the boiler alone. IDEM, OAQ considers this representative of actual conditions, where the emissions from associated coal and ash handling operations are proportional to the operation of the boiler. Coal and ash handling operations are not each subject to testing requirements for PM$_{10}$ and PM$_{2.5}$ so their inclusion in compliance determination calculations would be in the form of baseline values rather than tested values in terms of a measured operating quantity such as coal throughput. The source agrees that emissions from the coal support operations and equipment shall not exceed baseline levels during the transition period when LA-45 and one or both of the cogen units are operating.

<table>
<thead>
<tr>
<th>Potential to Emit After Issuance</th>
</tr>
</thead>
<tbody>
<tr>
<td>The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the Part 70 source modification and renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.</td>
</tr>
</tbody>
</table>
Table: Source-Wide Emissions After Issuance (ton/year)

<table>
<thead>
<tr>
<th></th>
<th>PM(^1)</th>
<th>PM(_{10})(^1)</th>
<th>PM(_{2.5})(^{1,2})</th>
<th>SO(_2)</th>
<th>NO(_x)</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP(^3)</th>
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<td>Total PTE of Entire</td>
<td>654</td>
<td>3,460</td>
<td>8,336</td>
<td>8,102</td>
<td>1,416</td>
<td>379</td>
<td>905</td>
<td>8,951</td>
<td>8,967</td>
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<td>sources, fossil fueled</td>
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<td>boilers and coal</td>
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<tr>
<td>Total PTE of Entire</td>
<td>654</td>
<td>3,460</td>
<td>8,336</td>
<td>8,102</td>
<td>1,416</td>
<td>379</td>
<td>905</td>
<td>8,951</td>
<td>8,967</td>
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<tr>
<td>Source</td>
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</table>

\(^1\)Under 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."

\(^2\)PM\(_{2.5}\) listed is direct PM\(_{2.5}\).

\(^3\)Single highest source-wide HAP, hydrogen chloride

\(^4\)Fugitive HAP emissions are always included in the source-wide emissions.

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because the PSD regulated pollutants, PM, PM\(_{10}\), PM\(_{2.5}\), SO\(_2\), NO\(_x\), VOC, and CO, are emitted at a rate of 250 tons per year or more, each, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

This existing nested source is a major stationary source, under PSD (326 IAC 2-2), because the PSD regulated pollutants, PM, SO\(_2\), NO\(_x\), and CO, are emitted at a rate of 100 tons per year or more, each, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are equal to or greater than ten (10) tons per year for a single HAP and equal to or greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

**Federal Rule Applicability**

**Compliance Assurance Monitoring (CAM):**

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the major source threshold for the regulated pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant (or a surrogate thereof); and
(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

(b) Pursuant to 40 CFR 64.2(b)(1)(i), emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act are exempt from the requirements of CAM. Therefore, an evaluation was not conducted for any emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act.

(c) Pursuant to 40 CFR 64.2(b)(1)(iii), Acid Rain requirements pursuant to Sections 404, 405, 406, 407(a), 407(b), or 410 of the Clean Air Act are exempt emission limitations or standards. Therefore, CAM was not evaluated for emission limitations or standards for SO₂ and NOₓ under the Acid Rain Program.

(d) Pursuant to 40 CFR 64.3(d), if a continuous emission monitoring system (CEMS) is required pursuant to other federal or state authority, the owner or operator shall use the CEMS to satisfy the requirements of CAM according to the criteria contained in 40 CFR 64.3(d).

The following table is used to identify the applicability of CAM to each existing emission unit and each emission limitation or standard for a specified pollutant based on the criteria specified under 40 CFR 64.2:

<table>
<thead>
<tr>
<th>Emission Unit/Pollutant</th>
<th>Control Device</th>
<th>Applicable Emission Limitation</th>
<th>Uncontrolled PTE (tons/year)</th>
<th>Controlled PTE (tons/year)</th>
<th>CAM Applicable (Y/N)</th>
<th>Large Unit (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>LA-1 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N ¹</td>
<td>N</td>
</tr>
<tr>
<td>LA-1 / PM₁₀</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>LA-1 / PM₂.₅</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N ²</td>
<td>N</td>
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<tr>
<td>LA-2 / PM*</td>
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<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>LA-2 / PM</td>
<td>BH</td>
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<td>&gt;100</td>
<td>&lt;100</td>
<td>N ¹</td>
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<td>LA-2 / PM₁₀</td>
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<td>&lt;100</td>
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</tr>
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<td>LA-2 / PM₂.₅</td>
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<td>-</td>
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<tr>
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<td>LA-70 / VOC</td>
<td>WS</td>
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<td>&gt;100</td>
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<td>N</td>
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<tr>
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<td>ESP, WS</td>
<td>326 IAC 6-2</td>
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<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>LA-45 / PM</td>
<td>ESP, WS</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
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<tr>
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<td>ESP, WS</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N ²</td>
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<tr>
<td>LA-45 / SO₂</td>
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<td>&gt;100</td>
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<td>&lt;10</td>
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<td>&gt;25</td>
<td>N ²</td>
<td>N</td>
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<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>LA-8 / PM</td>
<td>WS</td>
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<td>&lt;100</td>
<td>N ¹</td>
<td>N</td>
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<td>LA-17A / PM</td>
<td>WS</td>
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<td>&lt;100</td>
<td>N ¹</td>
<td>N</td>
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<tr>
<td>LA-8 / PM₁₀</td>
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<td>&lt;100</td>
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<td>&lt;100</td>
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<td>N</td>
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<td>&gt;100</td>
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<td>N</td>
</tr>
<tr>
<td>LA-15 / PM</td>
<td>WS</td>
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<td>&gt;100</td>
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</tr>
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<td>&gt;100</td>
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<td>N</td>
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<td>Uncontrolled PTE (tons/year)</td>
<td>Controlled PTE (tons/year)</td>
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<td>&lt;100</td>
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<td>&lt;100</td>
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<td>LA-60 / PM₁₀</td>
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<td>&lt;100</td>
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<td>&lt;100</td>
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<tr>
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<td>N</td>
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<tr>
<td>LA-53 / PM</td>
<td>WS</td>
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<td>&lt;100</td>
<td>N</td>
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<tr>
<td>LA-53 / PM₁₀</td>
<td>WS</td>
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<td>&lt;100</td>
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<td>N</td>
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<tr>
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<td>&gt;100</td>
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<td>Y</td>
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<tr>
<td>LA-60 / VOC</td>
<td>WS</td>
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<td>&gt;100</td>
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<td>Y</td>
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<tr>
<td>LA-8, LA-15, LA-17A, LA-60 / CO</td>
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<td>&gt;100</td>
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<td>&lt;100</td>
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<td>LA-17B, LA-43 / PM₁₀</td>
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<td>&lt;100</td>
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<td>LA-35 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-35 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 1</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-35 / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-35 / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-36 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-36 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 1</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-36 / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-36 / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-37 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-37 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 1</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-37 / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-37 / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-38 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-38 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 1</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-38 / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-38 / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42A / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42A / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 1</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42A / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42A / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42B (East &amp; West) / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42B (East &amp; West) / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-42B (East &amp; West) / PM10</td>
<td>BH</td>
<td>-</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
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<tr>
<td>LA-42B (East &amp; West) / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-55 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-55 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 1</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-55 / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-55 / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N 2</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-56 / PM*</td>
<td>BH</td>
<td>326 IAC 6-3-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-56 / PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
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<tr>
<td>LA-56 / PM10</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
</tr>
<tr>
<td>LA-56 / PM2.5</td>
<td>BH</td>
<td>-</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N/N</td>
<td>N/N</td>
</tr>
</tbody>
</table>

Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for criteria pollutants (PM10, PM2.5, SO2, NOx, VOC and CO) is 100 tpy, for a single HAP ten (10) tpy, and for total HAPs twenty-five (25) tpy. Under the Part 70 Permit program (40 CFR 70), PM is not a regulated pollutant.
<table>
<thead>
<tr>
<th>Emission Unit/Pollutant</th>
<th>Control Device</th>
<th>Applicable Emission Limitation</th>
<th>Uncontrolled PTE (tons/year)</th>
<th>Controlled PTE (tons/year)</th>
<th>CAM Applicable (Y/N)</th>
<th>Large Unit (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>For limitations under 326 IAC 6-3-2, 326 IAC 6.5, and 326 IAC 6.8, IDEM OAQ uses PM as a surrogate for the regulated air pollutant PM(<em>{10}). Therefore, uncontrolled PTE and controlled PTE reflect the emissions of the regulated air pollutant PM(</em>{10}).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 1</td>
<td>Under 326 IAC 2-2, PM is not a surrogate for a regulated air pollutant. Therefore, CAM does not apply to these emission units for the 326 IAC 2-2 PM limitation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 2</td>
<td>Although the unit uses a control device, there is no applicable emission limitation or standard. Therefore, based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 3</td>
<td>PM and HCl are limited for LA-45 pursuant to 40 CFR 63, Subpart DDDDD, which is a post-November 15, 1990 NESHAP. Emission units subject to limits in post-November 15, 1990 NESHAPs are exempt from the requirements of CAM for those pollutants. Therefore, LA-45 is exempt from CAM for PM and HCl. The exclusion for NESHAP would also apply the mercury, which is limited under Subpart DDDDD, but the potential to emit mercury is less than the major source threshold. Subpart DDDDD also includes a limitation on CO that is applicable to LA-45, but the unit does not use a control device for that pollutant and CAM is therefore not applicable to the unit for CO.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 4</td>
<td>The control device is not required to comply with the applicable emission limitation or standard. Therefore, based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 5</td>
<td>Pursuant to 40 CFR Part 64.1, the control devices are considered to be inherent process equipment. Therefore, based on the evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N 6</td>
<td>Units share a common control device for particulate and SO(_2), so CAM applicability is considered on a basis of the combined emissions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Controls: BH = Baghouse, C = Cyclone, DC = Dust Collection System, RTO = Regenerative or Recuperative Thermal Oxidizer, WS = Wet Scrubber, ESP = Electrostatic Preciptator, BV/BH = bin vent filter-baghouse

Emission units without air pollution controls are not subject to CAM. Therefore, they are not listed.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are applicable to Krystal Dryer/Cooler System No.2 (LA-51A) and Krystal Transportation Aspiration System (LA-51B), which are each considered as an "other unit," for PM and PM\(_{10}\) upon issuance of the Part 70 Permit Renewal. A CAM plan for these units is incorporated in the Part 70 Operating Permit Renewal.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable to the new cogen units, LA-84 and LA-85, as part of this modification. The units have potential to emit NO\(_x\) that is greater than the major source threshold and are subject to limitations on NO\(_x\) emissions, however, these units do not use a control device to comply with limitations and the limitations are pursuant to NSPS and NESHAP proposed after November 15, 1990.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are applicable to the units listed in the table below for the pollutants shown. A CAM plan was submitted as part of a previous permit application and the Compliance Determination and Monitoring Requirements section includes a detailed description of the CAM requirements.

<table>
<thead>
<tr>
<th>Unit</th>
<th>PM</th>
<th>PM(_{10})</th>
<th>PM(_{2.5})</th>
<th>SO(_2)</th>
<th>NO(_x)</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-70, LA-71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-8 &amp; LA-17A</td>
<td>x</td>
<td>x</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-15</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-47 &amp; LA-60</td>
<td>x</td>
<td>x</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>LA-17B, LA-43</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-28B</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
### New Source Performance Standards (NSPS)

**(a)** The requirements of the Standards of Performance for Fossil-Fuel-Fired Steam Generators, 40 CFR 60, Subpart D, are still not included in the permit for the Zurn Boiler (LA-44), constructed in 1977; Riley Stoker Boiler (LA-45), constructed in 1977; and Cleaver Brooks Boiler (LA-46), constructed in 1980. These units are fossil-fueled steam generating units that commenced construction after August 17, 1971, however the heat input rate of each unit is less than 73 megawatts (MW) (250 million Btu/hr). Therefore the units are not subject to this subpart.

**(b)** The requirements of the Standards of Performance for Electric Utility Steam Generating Units, 40 CFR 60, Subpart Da, are still not included in the permit for the Zurn Boiler (LA-44), constructed in 1977; Riley Stoker Boiler (LA-45), constructed in 1977; and Cleaver Brooks Boiler (LA-46), constructed in 1980. These units are not electric utility steam-generating units as defined at 40 CFR 60.41Da. The units are not steam electric generating units that were constructed for the purpose of supplying more than one-third of their potential electric output capacity and more than 25 MW net-electrical output to any utility power distribution system for sale. Therefore the units are not subject to this subpart.

**(c)** The requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db, are still not included in the permit for the Zurn Boiler (LA-44), constructed in 1977; Riley Stoker Boiler (LA-45), constructed in 1977; and Cleaver Brooks Boiler (LA-46), constructed in 1980. These units are steam generating units with heat input capacity of greater than 29 MW (100 MMBtu/hr), each, however each unit was constructed before June 19, 1984. Therefore the units are not subject to this subpart.

The requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db, are not included in the permit for the Heat Recovery Steam Generator #1 (HRSG #1) and Heat Recovery Steam Generator #2 (HRSG #2), which are elements of the cogeneration systems LA-84 and LA-85. HRSG #1 and HRSG #2, with a heat input capacity of 181.7 MMBtu/hr, each, are steam generating units with heat input capacity of greater than 29 MW (100 MMBtu/hr), each. However, pursuant to 40 CFR 60.4305(b), HRSG #1 and HRSG #2 are exempt from the requirements of subpart Db because the units are subject to subpart KKKK.

**(d)** The requirements of the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, are still not included in the permit for the Zurn Boiler (LA-44), constructed in 1977; Riley Stoker Boiler (LA-45), constructed in 1977; and Cleaver Brooks Boiler (LA-46), constructed in 1980. These units are steam generating units with heat input capacity of greater than 29 MW (100 MMBtu/hr), each, and each unit was constructed before June 9, 1989. Therefore the units are not subject to this subpart.

**(e)** The requirements of the Standards of Performance for Sulfuric Acid Plants, 40 CFR 60, Subpart H, are not included in the permit for the sulfur burner, approved in 2018 for construction. The unit is not a sulfuric acid production unit as defined at 40 CFR 60.81 because, although it burns
elemental sulfur, it does not produce sulfuric acid by the contact process. Therefore the unit is not subject to this subpart.

(f) The requirements of the Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978, 40 CFR 60, Subpart K, are still not included in the permit for the 200,000 gallon No. 2 fuel oil tank, constructed in 1977. The definition of petroleum liquids at 40 CFR 60.111 excludes No. 2 fuel oil. Therefore the unit is not subject to this subpart.

(g) The requirements of the Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60, Subpart Ka, are still not included in the permit for the 200,000 gallon No. 2 fuel oil tank, constructed in 1977. The storage vessel was constructed before May 18, 1978. Therefore the unit is not subject to this subpart.

(h) The requirements of the Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60, Subpart Kb, are still not included in the permit for the 200,000 gallon No. 2 fuel oil tank, constructed in 1977. The storage vessel was constructed before July 23, 1984. Therefore the unit is not subject to this subpart.

(i) This source is still subject to the Standards of Performance for Coal Preparation and Processing Plants, 40 CFR 60, Subpart Y), which is incorporated by reference as 326 IAC 12. Affected facilities at the source are a coal preparation and processing plant that may process more than 181 megagrams (Mg) (200 tons) of coal per day. The units subject to this rule include the following:

- One (1) Coal Unloading Building Aspiration System, identified as Unit ID LA-33, constructed in 1977, with a baghouse (LAC-33) for particulate control, exhausting to stack 22.
- One (1) Crusher and Transfer Building Aspiration System, identified as Unit ID LA-34, constructed in 1977, with a baghouse (LAC-34) for particulate control, exhausting to stack 23.
- One (1) Coal Storage Silos Top Aspiration System, identified as Unit ID LA-35, constructed in 1977, with a baghouse (LAC-35) for particulate control, exhausting to stack 24.
- One (1) Coal Storage Silos Bottom Aspiration System, identified as Unit ID LA-36, constructed in 1977, with a baghouse (LAC-36) for particulate control, exhausting to stack 25.
- One (1) Utility Building Aspiration System #1, identified as Unit ID LA-37, constructed in 1977, with a baghouse (LAC-37) for particulate control, exhausting to stack 26.
- One (1) Utility Building Aspiration System #2, identified as Unit ID LA-38, constructed in 1977, with a baghouse (LAC-38) for particulate control, exhausting to stack 27.
- One (1) Coal Silo Aspiration System, identified as Unit ID LA-55, constructed in 1977, with a rotoclone (LAC-55) for particulate control, exhausting to stack 28.
- One (1) Coal Bunkers Aspiration, identified as Unit ID LA-56, constructed in 1977, with a rotoclone (LAC-56) for particulate control, exhausting to stack 29.
The units are subject to the following portions of Subpart Y.

(1) 40 CFR 60.250(a)
(2) 40 CFR 60.250(b)
(3) 40 CFR 60.251
(4) 40 CFR 60.254(a)
(5) 40 CFR 60.255(a)
(6) 40 CFR 60.257(a)
(7) 40 CFR 60.258(a)
(8) 40 CFR 60.258(b)(3)
(9) 40 CFR 60.258(c)
(10) 40 CFR 60.258(d)

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the coal preparation and processing plant except as otherwise specified in 40 CFR 60, Subpart Y.

(j) The requirements of the Standards of Performance for Grain Elevators, 40 CFR 60, Subpart DD, are not included in the permit for the corn receiving operation (LA-1) and corn silos (LA-78), constructed in 1977. The units commenced construction before August 3, 1978. Also, although the source is a \textit{grain elevator} as defined at 40 CFR 60.301, located at a wet corn mill, the source is not a \textit{grain storage elevator} as defined at 40 CFR 60.301 because the permanent grain storage capacity is 19,135 m$^3$ (543,000 bushels). Therefore the units are not subject to this subpart.

(k) The cogeneration systems, LA-84 and LA-85, are subject to the Standards of Performance for Stationary Gas Turbines, 40 CFR 60, Subpart GG), which is incorporated by reference as 326 IAC 12. LA-84 and LA-85 are stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour that commenced construction after October 3, 1977. However, pursuant to 40 CFR 60.4305(b), LA-84 and LA-85 are exempt from the requirements of subpart GG because the units are subject to subpart KKKK.

(l) The requirements of the Standards of Performance for Bulk Gasoline Terminals, 40 CFR 60, Subpart XX, are still not included in the permit for the gasoline dispensing operation. The unit is not a bulk gasoline terminal as defined at 40 CFR 60.501. The unit does not receive gasoline by pipeline, ship or barge, and have a gasoline throughput greater than 75,700 liters per day. Therefore the unit is not subject to this subpart.

(m) The requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII, are still not included in the permit for the emergency generator and emergency fire pump, both constructed in 1976. The units commenced construction before July 11, 2005. Therefore the units are not subject to this subpart.

(n) The requirements of the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ, are still not included in the permit for the emergency generator and emergency fire pump, both constructed in 1976. The units are not spark ignition engines and commenced construction before June 12, 2006. Therefore the units are not subject to this subpart.

(o) The cogeneration systems, LA-84 and LA-85, are subject to the Standards of Performance for Stationary Combustion Turbines, 40 CFR 60, Subpart KKKK, which is incorporated by reference as 326 IAC 12. LA-84 and LA-85 are stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour that commenced construction after February 18, 2005. The units subject to this rule include the following:

- Cogeneration unit #1, identified as LA-84, exhausting to stack 6, consisting of:
(A) One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.

(B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.

- Cogeneration unit #2, identified as LA-85, exhausting to stack 7, consisting of:
  
  (A) One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr, using lean-premix staged combustion.
  
  (B) One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

LA-84 and LA-85 are subject to the following portions of Subpart KKKK.

(1) 40 CFR 60.4300
(2) 40 CFR 60.4305
(3) 40 CFR 60.4315
(4) 40 CFR 60.4320(a)
(5) 40 CFR 60.4330(a)(1)
(6) 40 CFR 60.4330(a)(2)
(7) 40 CFR 60.4333
(8) 40 CFR 60.4335(b)
(9) 40 CFR 60.4340(b)
(10) 40 CFR 60.4345
(11) 40 CFR 60.4350
(12) 40 CFR 60.4360
(13) 40 CFR 60.4365(a)
(14) 40 CFR 60.4375(a)
(15) 40 CFR 60.4380(b)
(16) 40 CFR 60.4395
(17) 40 CFR 60.4405
(18) 40 CFR 60.4420
(19) Table 1 to Subpart KKKK of Part 60

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to LA-84 and LA-85 except as otherwise specified in 40 CFR 60, Subpart KKKK.

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

(a) The requirements of the National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations), 40 CFR 63, Subpart R are still not included in the permit for the gasoline dispensing facility. The unit is not a bulk gasoline terminal as defined at 40 CFR 63.421. The unit does not receive gasoline by pipeline, ship or barge, and have a gasoline throughput greater than 75,700 liters per day.

(b) The requirements of the National Emission Standards for Tanks - Level 1, 40 CFR 63, Subpart OO are not included in the permit for the 200,000 gallon No. 2 fuel oil tank. The unit is not subject to another subpart of 40 CFR Parts 60, 61, or 63 that references this subpart.
(c) The requirements of the National Emission Standards for Storage Vessels (Tanks) - Control Level 2, 40 CFR 63, Subpart WW are not included in the permit for the 200,000 gallon No. 2 fuel oil tank. The unit is not subject to another subpart of 40 CFR Parts 60, 61, or 63 that references this subpart.

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hazardous Pollutants: Manufacture of Nutritional Yeast, 40 CFR 63, Subpart CCCC are still not included in the permit for the Krystar Dryer/Cooler System No. 2 and the Krystar Transportation Aspiration System. The units do not make yeast for the purpose of becoming an ingredient in dough for bread or any other yeast-raised baked product, or for becoming a nutritional food additive intended for consumption by humans.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hazardous Pollutants: Solvent Extraction for Vegetable Oil Production, 40 CFR 63, Subpart GGGG are still not included in the permit for the Krystar Dryer/Cooler System No. 2 and the Krystar Transportation Aspiration System. The units do not produce crude vegetable oil and meal products from oilseeds using solvent extraction processes.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hazardous Air Pollutants for Cellulose Products Manufacturing, 40 CFR 63, Subpart UUUU are still not included in the permit for the Krystar Dryer/Cooler System No. 2 and the Krystar Transportation Aspiration System. The units do not manufacture cellulose products using either the viscose or cellulose ether processes.

(g) The natural gas-fired stationary gas turbines, turbine #1 and turbine #2, are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines, 40 CFR 63, Subpart YYYY, which is incorporated by reference as 326 IAC 20-90. The units are new lean-premix gas fired stationary gas turbines that commenced construction after January 14, 2003. The units subject to this rule include the following:

- One (1) natural gas-fired stationary gas turbine, identified as turbine #1, with a maximum heat input capacity of 324.60 MMBtu/hr.

- One (1) natural gas-fired stationary gas turbine, identified as turbine #2, with a maximum heat input capacity of 324.60 MMBtu/hr.

Turbine #1 and turbine #2 are subject to the following portions of Subpart YYYY.

(1) 40 CFR 63.6080
(2) 40 CFR 63.6085
(3) 40 CFR 63.6090(a)(2)
(4) 40 CFR 63.6092
(5) 40 CFR 63.6095(c)
(6) 40 CFR 63.6095(d)
(7) 40 CFR 63.6100
(8) 40 CFR 63.6105
(9) 40 CFR 63.6110
(10) 40 CFR 63.6115
(11) 40 CFR 63.6120
(12) 40 CFR 63.6125
(13) 40 CFR 63.6130
(14) 40 CFR 63.6135
(15) 40 CFR 63.6140
(16) 40 CFR 63.6145(a)
(17) 40 CFR 63.6145(c)
The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart YYYY.

(h) The emergency generator and emergency fire pump are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ, which is incorporated by reference as 326 IAC 20-82. The compliance date for the emergency generator is June 15, 2007. The compliance date for the emergency fire pump is May 3, 2013. The units are existing compression ignition RICE at a major source of HAP emissions. The units subject to this rule include the following:

- One (1) diesel-fired, compression-ignition emergency generator, manufactured and installed in 1976, with a site rating of 938 HP.
- One (1) diesel-fired, compression-ignition emergency fire pump, manufactured and installed in 1976, with a site rating of 258 HP.

The units are subject to the following portions of Subpart ZZZZ.

**Emergency Generator:**

1. 40 CFR 63.6580
2. 40 CFR 63.6585(a), (b)
3. 40 CFR 63.6590(a)(1)(i), (b)(3)(iii)
4. 40 CFR 63.6665
5. 40 CFR 63.6670
6. 40 CFR 63.6675

**Emergency Fire Pump:**

1. 40 CFR 63.6580
2. 40 CFR 63.6585(a), (b)
3. 40 CFR 63.6590(a)(1)(ii)
4. 40 CFR 63.6595(a)(1), (c)
5. 40 CFR 63.6602
6. 40 CFR 63.6605
7. 40 CFR 63.6625(e)(2), (f), (h), (i)
8. 40 CFR 63.6640(a), (b), (e), (f)(1), (2)(i), (3)
(9) 40 CFR 63.6645(a)(5)
(10) 40 CFR 63.6650(c), (d), (f)
(11) 40 CFR 63.6655
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2c to Subpart ZZZZ of Part 63, item 1
(17) Table 6 to Subpart ZZZZ of Part 63, item 9
(18) Table 8 to Subpart ZZZZ of Part 63

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart ZZZZ.

Based on the existing permit, 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: https://www.epa.gov/sites/production/files/2016-06/documents/ricevacaturguidance041516.pdf

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.
(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63, Subpart DDDDD, which is incorporated by reference as 326 IAC 20-95 are still not included in the permit for the units listed in the table below. The units are not boilers or process heater as defined at 40 CFR 63.7575. The units are not enclosed devices using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water or enclosed devices using controlled flame, and the units’ 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 do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

<table>
<thead>
<tr>
<th>Equipment Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber dryer, LA-8</td>
<td>regenerative thermal oxidizer #2, LAC-601</td>
</tr>
<tr>
<td>DSLC dryer, LA-17A</td>
<td>regenerative thermal oxidizer #3, LAC-602</td>
</tr>
<tr>
<td>Gluten dryer, LA-15</td>
<td>carbon reactivation furnace, LA-28</td>
</tr>
<tr>
<td>GR dryer, LA-47</td>
<td>carbon reactivation furnace, LA-28B</td>
</tr>
<tr>
<td>regenerative thermal oxidizer #1, LAC-600</td>
<td></td>
</tr>
</tbody>
</table>

The boilers (LA-44, LA-45, and LA-46) and heat recovery steam generators (HRSG #1 and HRSG #2) are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63, Subpart DDDDD, which is incorporated by reference as 326 IAC 20-95. These units are existing (LA-44, LA-45, and LA-46) or new (HRSG #1 and HRSG #2) industrial boilers located at a major source of HAP emissions. The units subject to this rule include the following:

- One (1) natural gas/No. 2 fuel oil fired Zurn Boiler, identified as Unit ID LA-44, constructed in 1977, with a maximum heat input of 227 MMBtu/hr, with no emission control device, exhausting to stack 34.
- One (1) coal fired Riley Stoker Boiler, identified as Unit ID LA-45, constructed in 1977, with a maximum heat input of 239 MMBtu/hr, with a multiclone (539113) and an electrostatic precipitator (539115) for particulate control, with a scrubber (LAC-68) approved in 2014 for particulate, SO2 and HCl control, exhausting to stack 4.
- One (1) natural gas fired Cleaver Brooks Boiler, identified as Unit ID LA-46, constructed in 1980, with a maximum heat input of 49 MMBtu/hr, with no emission control device, exhausting to stack 5.
- One (1) natural gas-fired heat recovery steam generator, identified as HRSG #1, with a maximum heat input capacity of 181.70 MMBtu/hr.
- One (1) natural gas-fired heat recovery steam generator, identified as HRSG #2, with a maximum heat input capacity of 181.70 MMBtu/hr.

The units are subject to the following portions of Subpart DDDDD.

(1) Zurn Boiler (LA-44) and Cleaver Brooks Boiler (LA-46):

(A) 40 CFR 63.7480
(B) 40 CFR 63.7485
(C) 40 CFR 63.7490(a)(1), (d)
(D) 40 CFR 63.7495(b), (d)
(E) 40 CFR 63.7499(l)
(F) 40 CFR 63.7500(a)(1), (a)(3), (b), (e), (f)
(G) 40 CFR 63.7505(a)
(H) 40 CFR 63.7515(d)
(I) 40 CFR 63.7530(e), (f)
(J) 40 CFR 63.7540(a)(10), (a)(13), (b)
(K) 40 CFR 63.7545(a), (b), (e)(1), (e)(8), (f), (h)
(L) 40 CFR 63.7550(a), (b), (c)(1), (c)(5)(i)-(iv), (c)(5)(xiv), (h)(1), (h)(3)
(M) 40 CFR 63.7555(a), (h), (i), (j)
(N) 40 CFR 63.7560
(O) 40 CFR 63.7565
(P) 40 CFR 63.7570
(Q) 40 CFR 63.7575
(R) Table 3 to Subpart DDDDD of Part 63, (items 3, 4)
(S) Table 9 to Subpart DDDDD of Part 63
(T) Table 10 to Subpart DDDDD of Part 63

Note: LA-44 is also capable of burning No. 2 fuel oil. The unit burns liquid fuel during periods of gas curtailment or gas supply interruptions of any duration. Therefore, LA-44 is included in the definition of the unit designed to burn gas 1 subcategory at 40 CFR 63.7575.

(2) Riley Stoker Boiler (LA-45):

(A) 40 CFR 63.7480
(B) 40 CFR 63.7485
(C) 40 CFR 63.7490(a)(1), (d)
(D) 40 CFR 63.7495(b), (d)
(E) 40 CFR 63.7499(b)
(F) 40 CFR 63.7500(a), (b), (f)
(G) 40 CFR 63.7505(a), (c)
(H) 40 CFR 63.7510(a), (b), (c), (d), (e)
(I) 40 CFR 63.7515(a), (b), (c), (d), (e), (f), (g)
(J) 40 CFR 63.7520
(K) 40 CFR 63.7521(a), (b), (c), (d), (e)
(L) 40 CFR 63.7525(a), (c), (e), (f), (g), (h)
(M) 40 CFR 63.7530(a), (b), (c), (e), (f), (h)
(N) 40 CFR 63.7533
(O) 40 CFR 63.7535
(P) 40 CFR 63.7540(a)(1), (a)(2), (a)(3), (a)(5), (a)(10), (a)(13), (b), (d)
(Q) 40 CFR 63.7545(a), (b), (d), (e), (h)
(R) 40 CFR 63.7550(a), (b), (c), (d), (h)(1), (h)(3)
(S) 40 CFR 63.7555(a), (c), (d), (f), (i), (j)
(T) 40 CFR 63.7560
(U) 40 CFR 63.7565
(V) 40 CFR 63.7570
(W) 40 CFR 63.7575
(X) Table 2 to Subpart DDDDD of Part 63, (items 1, 2, 4)
(Y) Table 3 to Subpart DDDDD of Part 63, (items 3, 4, 5, 6)
(Z) Table 4 to Subpart DDDDD of Part 63, (items 1, 2, 7, 8, 9)
(AA) Table 5 to Subpart DDDDD of Part 63, (items 1, 3, 4, 5)
(BB) Table 6 to Subpart DDDDD of Part 63, (items 1, 2)
(CC) Table 7 to Subpart DDDDD of Part 63, (items 1b, 2a, 4, 5)
/DD) Table 8 to Subpart DDDDD of Part 63, (items 1, 4, 5, 7, 8, 9, 10)
(EE) Table 9 to Subpart DDDDD of Part 63
Heat recovery steam generators (HRSG #1 and HRSG #2):

(A) 40 CFR 63.7480
(B) 40 CFR 63.7485
(C) 40 CFR 63.7490(a)(2), (d)
(D) 40 CFR 63.7495(a), (d)
(E) 40 CFR 63.7499(l)
(F) 40 CFR 63.7500(a)(1), (3), (b), (f)
(G) 40 CFR 63.7505(a)
(H) 40 CFR 63.7530(f)
(I) 40 CFR 63.7540(a)(10), (b)
(J) 40 CFR 63.7545(a), (c), (e)
(K) 40 CFR 63.7550
(L) 40 CFR 63.7555
(M) 40 CFR 63.7560
(N) 40 CFR 63.7565
(O) 40 CFR 63.7570
(P) 40 CFR 63.7575
(Q) Table 3 to Subpart DDDDD of Part 63 (item 3)
(R) Table 9 to Subpart DDDDD of Part 63
(S) Table 10 to Subpart DDDDD of Part 63

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facilities described in this section except when otherwise specified in 40 CFR 63 Subpart DDDDD.

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Hydrochloric Acid Production, 40 CFR 63, Subpart NNNNN, which is incorporated by reference as 326 IAC 20-76, are still not included in the permit for the two (2) hydrochloric acid storage tanks, LA-41, and hydrochloric acid supply head tank, LA-76. The units are not hydrochloric acid production facilities as defined at 40 CFR 63.8985(a)(1). The units are not collections of unit operations and equipment associated with the production of liquid HCl product.

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Coal- and Oil-Fired Electric Utility Steam Generating Units, 40 CFR 63, Subpart UUUUU are not included in the permit for the Zurn boiler (LA-44), the Riley Stoker boiler (LA-45), or the cogeneration units (LA-84 and LA-85). The units are not electric utility steam generating units as defined at 40 CFR 63.10042. The units are not fossil fuel-fired combustion units of more than 25 megawatts electric (MWe) that serve generators that produce electricity for sale. Pursuant to 40 CFR 63.9983(a), LA-84 and LA-85 are not subject to subpart UUUUU because the units are designated as major source stationary combustion turbines subject to subpart YYYYY of this part. Pursuant to 40 CFR 63.9983(b), LA-84 and LA-85 are not subject to subpart UUUUU because the units are not coal- or oil-fired EGU, the cogeneration systems are natural gas-fired.

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Gasoline Dispensing Facilities, 40 CFR 63, Subpart CCCCCC are not included in the permit for the gasoline dispensing operation, because the operation is not an affected source under the standard. Pursuant to 40 CFR 63.11111(a), the affected source of the subpart is each gasoline dispensing facility that is located at an area source. The gasoline dispensing facility is not located at an area source.

The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJJ are not included
in the permit for the Zurn boiler (LA-44), the Riley Stoker boiler (LA-45), or the cogeneration units (LA-84 and LA-85). The units are not located at an area source.

### State Rule Applicability - Entire Source

**326 IAC 1-6-3 (Preventive Maintenance Plan)**
The source is subject to 326 IAC 1-6-3.

**326 IAC 1-5-2 (Emergency Reduction Plans)**
The source is subject to 326 IAC 1-5-2.

**326 IAC 2-6 (Emission Reporting)**
This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of VOC and PM\textsubscript{10} is greater than 250 tons per year, each, and the potential to emit of SO\textsubscript{2} is greater than 2,500 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1), annual reporting is required. An emission statement shall be submitted in accordance with the compliance schedule in 326 IAC 2-6-3 and every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

**326 IAC 2-7-6(5) (Annual Compliance Certification)**
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certification that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

**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)**
Pursuant to 326 IAC 6-4 (Fugitive Dust Emission Limitations), the source shall not generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

**326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)**
The source is not subject to the requirements of 326 IAC 6-5 because it is not located in an area listed in 326 IAC 6-5-1(a), and does not contain any units with the potential fugitive PM emissions greater than 25 tons per year which received a preconstruction approval after December 13, 1985.

**326 IAC 6.5 PM Limitations Except Lake County**
This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne. The source is located in Tippecanoe County

**326 IAC 6.8 PM Limitations for Lake County**
This source is not subject to 326 IAC 6.8 because it is not located in Lake County. The source is located in Tippecanoe County.

**326 IAC 9 (Carbon Monoxide Emission Rules)**
326 IAC 9 (Carbon Monoxide Emission Rules) applies to stationary sources of carbon monoxide emissions that commenced operation after March 21, 1972, and for which an emission limit has been established under 326 IAC 9-1-2.
(a) The boilers LA-44, LA-45, and LA-46 are stationary sources of CO emissions that commenced operation after March 21, 1972. Emission limits have been established in 326 IAC 9-1-2 for petroleum refining, ferrous metal smelters, and refuse incineration and refuse burning equipment. None of the processes for which emission limits have been established in 326 IAC 9-1-2 are applicable to boilers LA-44, LA-45, and LA-46. Therefore, the requirements of 326 IAC 9 do not apply to boilers LA-44, LA-45, and LA-46.

(b) The cogen units LA-84 and LA-85 are stationary sources of CO emissions that will commence operation after March 21, 1972. Emission limits have been established in 326 IAC 9-1-2 for petroleum refining, ferrous metal smelters, and refuse incineration and refuse burning equipment. None of the processes for which emission limits have been established in 326 IAC 9-1-2 are applicable to cogen units LA-84 and LA-85. Therefore, the requirements of 326 IAC 9 do not apply to cogen units LA-84 and LA-85.

326 IAC 10 (Nitrogen Oxide Rules)

(a) 326 IAC 10-2 (Nitrogen Oxide Control in Clark and Floyd Counties) applies to sources of NOx emissions located in Clark or Floyd Counties. Tate & Lyle Ingredients Americas, LLC is located in Tippecanoe County; therefore, the requirements of 326 IAC 10-1 do not apply to any of the emission units at Tate & Lyle Ingredients Americas, LLC.

(b) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories) applies to certain Portland cement kilns, specific boilers, and any other blast furnace gas fired boiler with a heat input greater than 250 MMBtu/hr. Tate & Lyle Ingredients Americas, LLC does not include any Portland cement kilns as described in 326 IAC 10-3-1(a)(1) or blast furnace gas-fired boilers as described at 326 IAC 10-3-1(a)(3). None of the boilers at this source are named in 326 IAC 10-3-1(a)(2). Therefore, the requirements of 326 IAC 10-3 do not apply to any units at Tate & Lyle Ingredients Americas, LLC.

(c) 326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines) applies to large NOx SIP Call engines as defined at 326 IAC 10-5-2(4). The emergency generator and emergency fire pump were not listed in the NOx SIP Call engine inventory defined at 326 IAC 10-5-2(5). Turbine #1 and Turbine #2 are not stationary internal combustion engines as defined at 326 IAC 10-5-2(10). Therefore, the requirements of 326 IAC 10-5 do not apply to any units at Tate & Lyle Ingredients Americas, LLC.

(d) 326 IAC 10-6 (Nitrogen Oxides Emission Limitations for Southern Indiana Gas and Electric Company) applies to Southern Indiana Gas and Electric Company Culley Unit 3 in Warrick County. This rule is not applicable to units at Tate & Lyle Ingredients Americas, LLC.

State Rule Applicability – Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration)

The TSD for Part 70 Operating Permit Renewal No. 157-27033-00033, issued August 14, 2014, includes a detailed analysis of the modification history and applicable limits.

(a) Pursuant to SSM No. 157-41643-00003, upon the startup, as defined at 40 CFR 60.2, of either cogeneration unit, LA-84 or LA-85, the Permittee shall comply with the following limits:

(1) The total combined PM10 emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 69.90 tons per twelve consecutive month period with compliance determined at the end of each month.
(2) The total combined PM$_{2.5}$ emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 64.90 tons per twelve consecutive month period with compliance determined at the end of each month.

(3) The total combined NOx emissions from the coal-fired Riley Stoker boiler (LA-45) and cogeneration units (LA-84 and LA-85) shall be less than 461.00 tons per twelve consecutive month period with compliance determined at the end of each month.

(4) The limits in paragraphs (1) - (3) shall cease to be effective after the date that the coal-fired Riley Stoker boiler, identified as LA-45, is made incapable of operation.

Compliance with these limits, when combined with contemporaneous increases and decreases at the source, shall limit the net emissions increase from the Cogeneration Turbine Project to less than fifteen (15) tons of PM$_{10}$, ten (10) tons of PM$_{2.5}$, and forty (40) tons of NOx per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to SSM No. 157-41643-00033 for PM$_{10}$, PM$_{2.5}$, and NOx.

(b) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0350, issued on February 5, 1986, particulate emissions from LA-1 and LA-2 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>0.84</td>
<td>1.7</td>
</tr>
<tr>
<td>LA-2</td>
<td>0.36</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(c) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 28, 2004, PM and PM$_{10}$ emissions from LA-1 and LA-2 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>1.89</td>
<td>1.89</td>
</tr>
<tr>
<td>LA-2</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM$_{10}$ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM$_{10}$.

(d) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as amended on April 5, 1995, the SO$_2$ emissions from LA-62A and LA-62B shall not exceed 1.37 pounds per hour combined.

Compliance with this limit, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of SO$_2$ from the modification to less than forty (40) tons of SO$_2$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for SO$_2$. 
(e) LA-70:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0351, issued on February 5, 1986, SO₂ emissions from LA-70 shall not exceed 14.18 pounds per hour and 62.1 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, the total SO₂ emissions from scrubbers LAC-70 and LAC-71 (controlling emissions from the millhouse and feedhouse, respectively) shall not exceed 12.85 pounds per hour and the concentration of SO₂ in each exhaust shall not exceed 17 ppm.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of SO₂ from the modification to less than forty (40) tons of SO₂ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for SO₂.

(f) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), PSD 79-1551, issued on August 31, 1984, and OP No. 79-07-89-0347, issued on February 5, 1986:

(1) PM emissions from LA-8 shall be controlled by a cyclone and shall not exceed 28.2 pounds per hour and 123.4 tons per year.

(2) SO₂ emissions from LA-8 shall not exceed 92.8 pounds per hour and 406.5 tons per year.

(3) NOx emissions from LA-8 shall not exceed 23.51 pounds per hour and 103 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(g) Dryers LA-8, LA-15, LA-17A, LA-47, LA-53, and LA-60:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0349, issued on February 5, 1986, PM emissions from LA-47 shall not exceed 8.25 pounds per hour and 36.1 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements), CO emissions from LA-8, LA-17A, LA-15, and LA-47 shall not exceed 76.8 pounds per hour and 336.4 tons per year combined.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(3) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, as revised in SSM No. 157-11449-00033, issued on August 16, 2000, as revised in AA No. 157-16939-00033, issued on March 25, 2003, and as revised in T157-27033-00033, issued August 14, 2014, PM and PM₁₀ emissions from LAC-67 (controlling emissions from LA-8, LA-15,
and LA-17A) and LAC-69 (controlling emissions from LA-47, LA-53, and LA-60) shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAC-67</td>
<td>65.41</td>
<td>65.41</td>
</tr>
<tr>
<td>(controlling LA-8, LA-15, LA-17A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAC-69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(controlling LA-47, LA-53, LA-60)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM$_{10}$ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM$_{10}$.

(4) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and SSM No. 157-11449-00033, issued on August 16, 2000, the concentration of SO$_2$ in the exhaust from scrubbers LAC-67 (controlling emissions from LA-8, LA-15, LA-17A) and LAC-69 (controlling emissions from LA-47 and LA-60) shall not exceed 187 parts per million.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 and the SSM No. 157-11449-00033 projects, shall limit the net emissions increase of SO$_2$ from the modifications to less than forty (40) tons of SO$_2$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 and 2000 modifications for SO$_2$.

(h) LA-45:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0342, PM emissions from LA-45 shall not exceed 0.4 lb/MMBtu, 95.6 pounds per hour and 418.7 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to SSM No. 157-11449-00033, issued on August 16, 2000, PM emissions from LA-45 shall not exceed 0.2 pound per MMBtu heat input.

Compliance with this limit, in combination with other limits from the SSM No. 157-11449-00033 project, shall limit the net emissions increase of PM from the modification to less than twenty-five (25) tons of PM per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2000 modification for PM.

(i) LA-71:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0348, issued on February 5, 1986, SO$_2$ emissions from LA-71 shall not exceed 12.44 pounds per hour and 54.5 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.
(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, the total SO₂ emissions from scrubbers LAC-70 and LAC-71 (controlling emissions from the feedhouse and millhouse, respectively) shall not exceed 12.85 pounds per hour and the concentration of SO₂ in each exhaust shall not exceed 17 ppm.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of SO₂ from the modification to less than forty (40) tons of SO₂ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for SO₂.

(j) LA-17B and LA-43:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0349, issued on February 5, 1986, PM emissions from LA-17B shall not exceed 3.0 pounds per hour and 31.1 tons per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 29, 2004, PM and PM₁₀ emissions from LA-17B and LA-43 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM₁₀ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-17B</td>
<td>6.43</td>
<td>6.43</td>
</tr>
<tr>
<td>LA-43</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM₁₀ from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM₁₀ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM₁₀.

(k) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0345, issued on February 5, 1986, PM emissions from LA-18 and LA-22 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-18</td>
<td>0.26</td>
<td>1.1</td>
</tr>
<tr>
<td>LA-22</td>
<td>0.12</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(l) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 28, 2004, PM and PM₁₀ emissions from LA-21 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM₁₀ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-21</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>
Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM and PM\textsubscript{10} from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM\textsubscript{10} per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM and PM\textsubscript{10}.

(m) Pursuant to SSM No. 157-16882-00033, issued on December 5, 2003, and as revised by this Part 70 Operating Permit No. T157-6008-00033, issued on June 28, 2004, the PM and PM\textsubscript{10} emissions from LA-21B, LA-63, LA-64, LA-77, LA-79, LA-80, LA-81, and LA-83 shall not exceed the values in the table below:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM emission limit (lb/hr)</th>
<th>PM\textsubscript{10} emission limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-21B</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>LA-63</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>LA-64</td>
<td>1.29</td>
<td>1.29</td>
</tr>
<tr>
<td>LA-77</td>
<td>0.77</td>
<td>0.77</td>
</tr>
<tr>
<td>LA-79</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>LA-80</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>LA-81</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>LA-83</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Compliance with these limits, shall limit the net emissions increase of PM and PM\textsubscript{10} from the modification to less than twenty-five (25) tons of PM and fifteen (15) tons of PM\textsubscript{10} per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2003 modification for PM and PM\textsubscript{10}.

(n) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0344, issued on February 5, 1986, PM emissions from LA-29, LA-31, and LA-32 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-29</td>
<td>0.11</td>
<td>0.5</td>
</tr>
<tr>
<td>LA-31</td>
<td>0.05</td>
<td>0.2</td>
</tr>
<tr>
<td>LA-32</td>
<td>0.03</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(o) For LA-28 and LA-61:

(1) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0344, issued on February 5, 1986:

(A) PM emissions from LA-28 shall not exceed 3.0 pounds per hour and 13.1 tons per year.

(B) SO\textsubscript{2} emissions from LA-28 shall not exceed 10.4 pounds per hour and 45.6 tons per year.
per year.

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(2) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, as revised in Amendment No. 157-5638-00033, issued on May 6, 1996, and as revised in T157-6008-00033, issued on June 28, 2004:

(A) PM and PM$_{10}$ emissions from LA-28 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-28</td>
<td>1.29</td>
<td>1.29</td>
</tr>
</tbody>
</table>

(B) The SO$_{2}$ emissions from LA-61 shall not exceed 5.96 pounds per hour and the concentration of SO$_{2}$ in the exhaust shall not exceed 500 ppm.

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 project, shall limit the net emissions increase of PM, PM$_{10}$, and SO$_{2}$ from the modification to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, and forty (40) tons of SO$_{2}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 modification for PM, PM$_{10}$ and SO$_{2}$.

(p) Pursuant to SSM No. 157-11449-00033, issued on August 16, 2000, and as revised in T157-27033-00033, issued August 14, 2014, SO$_{2}$ emissions from LA-75 shall be limited as follows:

(1) The amount of steam vented directly to the atmosphere from LA-75 shall not exceed 25,000,000 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) The SO$_{2}$ emissions in the steam shall not exceed 0.003 pound per pound of steam.

Compliance with these limits, in combination with other limits from the SSM No. 157-11449-00033 project, shall limit the net emissions increase of SO$_{2}$ from the modification to less than forty (40) tons of SO$_{2}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2000 modification for SO$_{2}$.

(q) Pursuant to CP No. 157-3581-00033, issued on February 27, 1995, as revised in SSM No. 157-16770-00033, issued on July 10, 2003, and as revised in SSM No. 157-24835-00033, issued on October 24, 2007, and as revised in SSM No. 157-35435-00033, PM, PM$_{10}$, and PM$_{2.5}$ emissions from LA-51 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
<th>PM$_{2.5}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-51</td>
<td>0.82</td>
<td>0.82</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with other limits from the CP No. 157-3581-00033 and SSM No. 157-16770-00033 projects, shall limit the net emissions increase of PM and PM$_{10}$ from the modifications to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 1995 and 2003 modifications for PM and PM$_{10}$.
Compliance with these limits, in combination with the limits for LA-28B, shall also limit the potential to emit of PM and PM$_{10}$ from the SSM No. 157-24835-00033 project to less than twenty-five (25) tons of PM and fifteen (15) tons of PM$_{10}$ per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable to the 2007 (SSM No. 157-24835-00033) modification for PM and PM$_{10}$.

Compliance with these limits, in combination with the other limits from the SSM No. 157-35435-00033 projects, shall limit the potential to emit PM, PM$_{10}$, and PM$_{2.5}$ of the 2015 modifications to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable to SSM No. 157-35435-00033 for PM, PM$_{10}$, and PM$_{2.5}$.

(r) Pursuant to SSM No. 157-24835-00033, issued on October 24, 2007, PM, PM$_{10}$, VOC, and CO emissions from LA-28B shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Pollutant</th>
<th>Emission Limits (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-28B</td>
<td>PM</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>PM$_{10}$</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>VOC</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>CO</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with the potential to emit of PM, PM$_{10}$, VOC, and CO from the modification to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, forty (40) tons of VOC, and one hundred (100) tons of CO per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2007 (SSM No. 157-24835-00033) modification for PM, PM$_{10}$, VOC, and CO.

(s) Pursuant to SSM No. 157-30513-00033, issued on January 30, 2014, PM, PM$_{10}$, and PM$_{2.5}$ emissions from LA-52 shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
<th>PM$_{2.5}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-52</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Compliance with these limits, in combination with the potential to emit PM, PM$_{10}$, and PM$_{2.5}$ from the combustion of natural gas at RTO Nos. 1, 2, and 3 (LAC-600, LAC-601, and LAC-602), shall limit the potential to emit of the modification to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014 (SSM 157-30513-00033) and the 2015 (SSM 157-35435-00033) modifications for PM, PM$_{10}$, and PM$_{2.5}$.

(t) Pursuant to SSM No. 157-35435-00033, issued August 4, 2015, PM, PM$_{10}$, and PM$_{2.5}$ emissions from LA-51A, LA-51B, shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limit (lb/hr)</th>
<th>PM$_{10}$ Limit (lb/hr)</th>
<th>PM$_{2.5}$ Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-51A</td>
<td>0.29</td>
<td>0.29</td>
<td>0.13</td>
</tr>
<tr>
<td>LA-51B</td>
<td>0.27</td>
<td>0.27</td>
<td>0.12</td>
</tr>
<tr>
<td>Bagger Aspiration System (Tote Bagger 59L710, Bagger 59L735, Bagger Head Hopper 45L732)</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Compliance with these limits, in combination with the limit for LA-51, shall limit the net emissions increase of PM, PM$_{10}$, and PM$_{2.5}$ from the 2015 modifications to less than twenty-five (25) tons of PM, fifteen (15) tons of PM$_{10}$, and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to SSM No. 157-35435-00033 for PM, PM$_{10}$, and PM$_{2.5}$.

(u) Pursuant to SSM No. 157-40283-00033, issued October 24, 2018, and 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:

1. The PM$_{10}$ emissions from the Filter Aid Rail/Truck Unloading, identified as LA-31 controlled by one (1) baghouse, identified as LAC-31 shall not exceed a total of 3.3 pounds per hour.

2. The PM$_{2.5}$ emissions from the Filter Aid Rail/Truck Unloading, identified as LA-31 controlled by one (1) baghouse, identified as LAC-31 shall not exceed a total of 2.2 pounds per hour.

Compliance with these limits shall limit PM$_{10}$ and PM$_{2.5}$ emissions from the Filter Aid Rail/Truck Unloading, identified as LA-31 to less than fifteen (15) tons of PM$_{10}$ and ten (10) tons of PM$_{2.5}$ per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (PSD) not applicable to SSM No. 157-40283-00033 for PM$_{10}$ and PM$_{2.5}$.

(v) Pursuant to 326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0343, issued on February 5, 1986, PM emissions from LA-33 through LA-38, LA-42A, and LA-42B (East and West) shall not exceed the following limits:

<table>
<thead>
<tr>
<th>Unit</th>
<th>PM Limit (lb/hr)</th>
<th>PM Limit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-33</td>
<td>2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-34</td>
<td>2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-35</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-36</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-37</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-38</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>LA-42A</td>
<td>0.33</td>
<td>0.7</td>
</tr>
<tr>
<td>LA-42B (East and West)</td>
<td>0.09</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Compliance with these limits shall satisfy the requirements of the Air Quality Impact analysis for PSD 79-1551, issued on August 31, 1984.

(w) Fuel throughput and NOx emissions limitations applied to the regenerative thermal oxidizers (LAC-600, LAC-601, and LAC-602) in SSM No. 157-35435-00033, issued August 4, 2015 are removed in the present action (SSM No. 157-41643-00033 and Renewal No. 157-40694-00033). The actual maximum heat input capacity of each RTO is 16 MMBtu/hr rather than the value of 35 MMBtu/hr, each, used in potential to emit calculations for these units in SSM No. 157-30513-00033, issued January 30, 2014 (LAC-600 and LAC-601) and SSM No. 157-35435-00033 (LAC-602). The unrestricted potential to emit NOx of the three RTO’s is 20.61 tons/yr and therefore the limitations included in SSM No. 157-35435-00033 are not required to ensure that the RTO project is a minor modification (NOx PTE ≤ 40 tons per year) under PSD rules.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants)
The provisions of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) are applicable to sources that construct or reconstruct major sources of HAPs after July 27, 1997. The processes at Tate & Lyle Ingredients Americas, LLC were existing as of July 27, 1997. Therefore, only units constructed after July 27, 1997 have been evaluated to determine if the provisions of 326 IAC 2-4.1 are applicable.

(a) Corn Receiving and Handling Area:
Units LA-1, LA-2 and LA-78 are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997 and do not have the potential to emit HAPs.

(b) Corn Steeping and Milling Area:
Units LA-62A, LA-62B and LA-70 are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997 and have the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs.

(c) Feed House and Boiler House Area:
(1) Units, LA-17B, LA-43 and LA-53 are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997 and do not have the potential to emit HAPs.

(2) Units LA-17A, LA-8, LA-15, LA-60, LA-47, LA-71, LA-44, and LA-46 are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997 and have the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs.

(3) Unit LA-45 is not subject to the requirements of 326 IAC 2-4.1 because even though it has the potential to emit greater than ten (10) tons per year of a single HAP and/or greater than twenty-five (25) tons per year of a combination of HAPs, it was constructed before July 27, 1997.

(d) Feed Products Storage and Loadout Area:
(1) Units LA-22, LA-21, LA-18, and LA-64 are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997 and do not have the potential to emit HAPs.

(2) Units LA-21B, LA-63, LA-77, LA-21B, LA-79, LA-80, LA-81, and LA-83 are not subject to the requirements of 326 IAC 2-4.1 because even though they were constructed after July 27, 1997 they do not have the potential to emit HAPs.

(e) Refinery Area
(1) Units LA-72, LA-73, LA-74, LA-75, LA-29, LA-41, LA-76, LA-65A, LA-31A, LA-31B, LA-32, LA-61, LA-28, and LA-51 are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997.

(2) Units LA-28B and LA-52 are not subject to the requirements of 326 IAC 2-4.1 because even though they were constructed after July 27, 1997, they have the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs.

(f) Coal and Ash Storage and Handling Area:
Units LA-33, LA-34, LA-35, LA-36, LA-37, LA-38, LA-55, LA-56, LA-42A, LA-42B East (stack 31A) and LA-42B West (stack 31B) are not subject to the requirements of 326 IAC 2-4.1 because they were constructed before July 27, 1997 and do not have the potential to emit HAPs.

(g) The operation of RTO No.3 (LAC-602) authorized in SSM No. 157-35345-00033, issued August 4, 2015, 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 to this unit.

(h) The operation of LA-51A and LA-51B authorized in SSM No. 157-35345-00033, issued August 4, 2015, 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 to these units.

(i) The operation of the sulfur burner authorized in SSM No. 157-40283-00033, issued October 24, 2018, 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 to this unit.

(j) The operation of LA-31 authorized in SSM No. 157-40283-00033, issued October 24, 2018, 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 to this unit.

(k) The operation of LA-84 and LA-85 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 to these units. These units consist of stationary combustion turbines subject to 40 CFR 63, subpart YYYY and heat recovery steam generators subject to 40 CFR 63, subpart DDDDD and would be excluded pursuant to 326 IAC 2-4.1-1(b)(2) if the congeneration system was a major source.

326 IAC 3-5 (Continuous Monitoring of Emissions)

(a) Pursuant to 326 IAC 3-5-1(a)(2), the requirements of 326 IAC 3-5 are applicable to boiler LA-44 because it is a fossil fuel-fired steam generator of greater than 100 MMBtu/hr heat input capacity.

(1) Pursuant to 326 IAC 3-5-1(b)(2)(A)(i) and (ii), LA-44 does not require continuous opacity monitoring because:

(A) gaseous fuel is the only fuel combusted, or
(B) oil or a mix of gas and oil are the only fuels combusted and the unit complies with 326 IAC 5-1 and 326 IAC 6-2 without using particulate control equipment.

(2) Pursuant to 326 IAC 3-5-1(b)(2)(B), LA-44 does not require continuous sulfur dioxide (SO₂) monitoring because no SO₂ pollution control equipment is installed and a monitor is not required to determine compliance with either 326 IAC 12 or a new construction permit or operating permit issued under 326 IAC 2. Compliance with conditions of the operating permit regarding SO₂ emissions from LA-44 is determined by fuel sampling or a stack test.

(3) Pursuant to 326 IAC 3-5-1(b)(2)(B), LA-44 does not require continuous nitrogen oxides (NOx) monitoring because no NOx pollution control equipment is installed and a monitor is not required to determine compliance with either 326 IAC 12 or a new construction permit or operating permit issued under 326 IAC 2.

(b) Pursuant to 326 IAC 3-5-1(a)(2), the requirements of 326 IAC 3-5 are applicable to boiler LA-45 because it is a fossil fuel-fired steam generator of greater than 100 MMBtu/hr heat input capacity.

(1) Pursuant to 326 IAC 3-5-1(b)(2)(A), the Permittee shall continuously monitor opacity from LA-45.
Boiler LA-45 shall comply with the following provisions of 326 IAC 3-5:

(A) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) a continuous emission monitoring system for LA-45 shall be calibrated, maintained, and operated for measuring opacity, which meets all applicable performance specifications of 326 IAC 3-5-2.

(B) All continuous emissions monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(C) All continuous emissions monitoring systems should follow the standard operating procedure prepared and submitted pursuant to 326 IAC 3-5-4.

(D) All continuous emissions monitoring systems are subject to the quality assurance requirements pursuant to 326 IAC 3-5-5.

(E) All continuous emissions monitoring systems are subject to the record keeping and reporting requirements pursuant to 326 IAC 3-5-6 and 326 IAC 3-5-7, respectively.

(F) All continuous emissions monitoring systems are subject to the operation and maintenance requirements pursuant to 326 IAC 3-5-8.

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

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

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

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

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

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

(2) LA-45 does not require continuous sulfur dioxide (SO₂) monitoring pursuant to 326 IAC 3-5-1(b)(2)(B) because, although SO₂ pollution control equipment is installed, a monitor is not required to determine compliance with either 326 IAC 12 or a new construction permit or operating permit issued under 326 IAC 2. Compliance with conditions of the operating permit regarding SO₂ emissions from LA-45 is determined by fuel sampling or a stack test.
(3) LA-45 does not require continuous nitrogen oxides (NOx) monitoring pursuant to 326 IAC 3-5-1(b)(2)(C) because no NOx pollution control equipment is installed and a monitor is not required to determine compliance with either 326 IAC 12 or a new construction permit or operating permit issued under 326 IAC 2.

(4) LA-45 does not require continuous percent oxygen (O2) or carbon dioxide (CO2) monitoring pursuant to 326 IAC 3-5-1(b)(2)(D) because measurements of O2 or CO2 in the flue gas are not required to convert either SO2 or NOx continuous monitoring data, or both, to units of an emission limitation for the emissions unit.

(5) LA-45 does not require continuous carbon monoxide (CO) monitoring because the pollutant is not listed in the continuous monitoring requirements in 326 IAC 3-5-1(b)(2).

(b) Boiler LA-46 is a fossil fuel-fired steam generator. However, the heat input capacity of boiler LA-46 is less than 100 million Btu/hr (49 MMBtu/hr) and the unit is not required to perform continuous monitoring under 326 IAC 12. Therefore, the requirements of 326 IAC 3-5 are not applicable to boiler LA-46.

(c) The heat recovery steam generators (HRSG #1 and HRSG #2) are fossil fuel-fired steam generators with heat input capacity greater than 100 MMBtu/hr. Each of the units use a NOx CEMS subject to 40 CFR 60,4340(b)(1), which is incorporated by reference as 326 IAC 12. Therefore, pursuant to 326 IAC 3-5-1(a)(1) and (2), the requirements of 326 IAC 3-5 are applicable to HRSG #1 and HRSG #2.

(1) Pursuant to 326 IAC 3-5-1(b)(2)(A)(i), HRSG #1 and HRSG #2 do not require continuous opacity monitoring because gaseous fuel is the only fuel combusted.

(2) Pursuant to 326 IAC 3-5-1(b)(2)(B), HRSG #1 and HRSG #2 do not require continuous sulfur dioxide (SO2) monitoring because no SO2 pollution control equipment is installed and a monitor is not required to determine compliance with either 326 IAC 12 or a new construction permit or operating permit issued under 326 IAC 2.

(3) Pursuant to 326 IAC 3-5-1(b)(1), HRSG #1 and HRSG #2 require continuous nitrogen oxides (NOx) monitoring because a monitor is required to determine compliance with 326 IAC 12.

(4) Pursuant to 326 IAC 3-5-1(b)(2)(D), HRSG #1 and HRSG #2 require continuous oxygen (O2) or carbon dioxide (CO2) monitoring because measurements of O2 or CO2 in the flue gas are required to convert NOx continuous monitoring data to units of the emission limitation.

(5) HRSG #1 and HRSG #2 shall comply with the following provisions of 326 IAC 3-5:

(A) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) continuous emission monitoring systems for HRSG #1 and HRSG #2 shall be calibrated, maintained, and operated for measuring nitrogen oxides (NOx) and oxygen (O2) or carbon dioxide (CO2), which meet all applicable performance specifications of 326 IAC 3-5-2.

(B) All continuous emissions monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

(C) All continuous emissions monitoring systems should follow the standard operating procedure prepared and submitted pursuant to 326 IAC 3-5-4.
(D) All continuous emissions monitoring systems are subject to the quality assurance requirements pursuant to 326 IAC 3-5-5.

(E) All continuous emissions monitoring systems are subject to the record keeping and reporting requirements pursuant to 326 IAC 3-5-6 and 326 IAC 3-5-7, respectively.

(F) All continuous emissions monitoring systems are subject to the operation and maintenance requirements pursuant to 326 IAC 3-5-8.

326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(c), for indirect heating facilities existing and in operation, or which received permit to construct, prior to September 21, 1983 and not located in Lake, Porter, Marion, Boone, Hamilton, Hendricks, Johnson, Morgan, Shelby, or Hancock Counties are subject to the requirements of 326 IAC 6-2-3.

The particulate matter emissions (Pt) shall be limited by the following equation:

\[ Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}} \]

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.
- \( C \) = Maximum ground level concentration with respect to distance from the point source at the “critical” wind speed for level terrain. This shall equal fifty (50) micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.
- \( a \) = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value sixty-seven tenths (0.67) shall be used for \( Q \) less than or equal to one thousand (1,000) million British thermal units per hour heat input.
- \( N \) = Number of stacks in fuel burning operation.
- \( h \) = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

\[ h = \frac{\sum_{i=1}^{N} H_i \times p_{ai} \times Q}{\sum_{i=1}^{N} p_{ai} \times Q} \]

Where:

- \( H_i \) = height of facility i stack, ft.
\[ p_{ai} = \text{actual controlled emission rate of facility } i, \text{ (lb/MMBtu), using an emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.} \]

\[ Q = \text{Heat input capacity of facility } i, \text{ MMBtu/hr} \]

Pursuant to 326 IAC 6-2-3(e), for any unit which has a rating of 250 MMBtu/hr or less, and began operation after June 8, 1972, Pt shall not exceed 0.6 lb/MMBtu.

<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 LA-44</td>
<td>1977</td>
<td>227</td>
<td>466</td>
<td>0.91</td>
<td>0.6</td>
<td>0.00014</td>
</tr>
<tr>
<td>Boiler LA-45</td>
<td>1977</td>
<td>239</td>
<td>466</td>
<td>0.91</td>
<td>0.6</td>
<td>0.0221</td>
</tr>
<tr>
<td>Boiler LA-46</td>
<td>1980</td>
<td>49</td>
<td>515</td>
<td>0.85²</td>
<td>0.6</td>
<td>0.002</td>
</tr>
</tbody>
</table>

The calculated values for Pt are based on information in the TSD for Part 70 Renewal No. 157-27033-00033, issued August 14, 2014.

Where: \( Q = \text{Sum of the maximum operating capacity rating (MMBtu/hr) of the new unit(s) and all units located at the source on the date the new unit(s) was constructed.} \)

Note:
1. Controlled emissions rate for LA-45, 7/19/2017 stack test, ACES ID #: 211789
2. Calculated Pt based on exhaust to original stack 4. LA-46 now exhausts to stack 5.

### 326 IAC 6-2-4 (Particulate Matter 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:

\[ Pt = \text{Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).} \]

\[ Q = \text{Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility’s permit application, except when some lower capacity is contained in the facility’s operation permit; in which case, the capacity specified in the permit; in which case, the capacity specified in the operation permit shall be used.} \]
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>515</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>HRSG #1</td>
<td>2019</td>
<td>181.70</td>
<td>878.40</td>
<td>0.187</td>
<td>0.187</td>
<td>0.002</td>
</tr>
<tr>
<td>HRSG #2</td>
<td>2019</td>
<td>181.70</td>
<td>878.40</td>
<td>0.187</td>
<td>0.187</td>
<td>0.002</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.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) The following units are subject to 326 IAC 6-3-2 (e). The table below outlines the limits the source must comply with:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>PM Limitation (lb/hr)</th>
<th>Source of Limitation</th>
<th>More stringent than 326 IAC 6-3-2(e) Pt&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>0.84</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0350, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-2</td>
<td>0.36</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0350, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-78</td>
<td>1.84</td>
<td>Part 70 Operating Permit Renewal No. 157-27033-00033, issued August 14, 2014</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-8</td>
<td>28.2</td>
<td>326 IAC 2-2-3 (Control Technology Review Requirements), PSD 79-1551, issued on August 31, 1984, and OP No. 79-07-89-0347, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-8</td>
<td>65.41</td>
<td>CP No. 157-3581-00033, issued on February 27, 1995, as revised in SSM No. 157-11449-00033, issued on August 16, 2000, as revised in AA No. 157-16939-00033, issued on March 25, 2003, and as revised in T157-27033-00033, issued August 14, 2014</td>
<td>Yes (combined limit less than sum of limits applicable to individual units)</td>
</tr>
<tr>
<td>LA-47</td>
<td>8.25</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0349, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-17B</td>
<td>3.0</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0349, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-17B</td>
<td></td>
<td>CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 29, 2004</td>
<td>Yes (combined limit less than sum of limits applicable to individual units)</td>
</tr>
<tr>
<td>LA-43</td>
<td>6.43</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-22</td>
<td>0.12</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0345, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Unit ID | PM Limitation (lb/hr) | Source of Limitation | More stringent than 326 IAC 6-3-2(e) Pt^1 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-21</td>
<td>1.03</td>
<td>CP No. 157-3581-00033, issued on February 27, 1995, and as revised in T157-6008-00033, issued on June 28, 2004</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-18</td>
<td>0.26</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirements) and OP No. 79-07-89-0345, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-63</td>
<td>3.00</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-64</td>
<td>1.29</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-77</td>
<td>0.77</td>
<td>SSM No. 157-16882-00033, issued on December 5, 2003, and as revised by this Part 70 Operating Permit No. T157-6008-00033, issued on June 28, 2004</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-79</td>
<td>1.71</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-80</td>
<td>1.71</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-81</td>
<td>1.71</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-83</td>
<td>1.71</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-29</td>
<td>0.11</td>
<td>326 IAC 2-2-5 (Air Quality Impact Requirement) and OP No. 79-07-89-0344, issued on February 5, 1986</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-31</td>
<td>0.05</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-32</td>
<td>0.03</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>LA-51</td>
<td>0.82</td>
<td>CP No. 157-3581-00033, issued on February 27, 1995, as revised in SSM No. 157-16770-00033, issued on July 10, 2003, and as revised in SSM No. 157-24835-00033, issued on October 24, 2007, and as revised in SSM No. 157-35435-00033</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-51A</td>
<td>0.29</td>
<td>SSM No. 157-35435-00033, issued August 4, 2015</td>
<td>Yes</td>
</tr>
<tr>
<td>LA-51B</td>
<td>0.27</td>
<td>2015</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Notes:

1. Values calculated from the formulas in 326 IAC 6-3-2(e) are withheld because the calculation involves information that the source has claimed as confidential business information. IDEM, OAQ has reviewed the permit limits against limits calculated in accordance with 326 IAC 6-3-2(e).

(b) The following units are subject to 326 IAC 6-3-2 (e). The table below outlines the limits the source must comply with.

<table>
<thead>
<tr>
<th>Process Description</th>
<th>Process Weight Rate^1 (ton/hr)</th>
<th>326 IAC 6-3-2 Limit (lb/hr)</th>
<th>Uncontrolled PM Emissions (lb/hr)</th>
<th>Capable of Compliance with 326 IAC 6-3-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-33</td>
<td>10.86</td>
<td>20.27</td>
<td>1,774.20</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-34</td>
<td>10.86</td>
<td>20.27</td>
<td>685.62</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-35</td>
<td>10.86</td>
<td>20.27</td>
<td>514.38</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-36</td>
<td>10.86</td>
<td>20.27</td>
<td>839.95</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-37</td>
<td>10.86</td>
<td>20.27</td>
<td>102.97</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-38</td>
<td>10.86</td>
<td>20.27</td>
<td>102.97</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-55</td>
<td>10.86</td>
<td>20.27</td>
<td>36.07</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-56</td>
<td>10.86</td>
<td>20.27</td>
<td>4.57</td>
<td>Yes, without Control</td>
</tr>
<tr>
<td>LA-42A</td>
<td>1.57</td>
<td>5.55</td>
<td>329.91</td>
<td>Yes, with Control</td>
</tr>
<tr>
<td>LA-42B</td>
<td>1.57</td>
<td>5.55</td>
<td>1.83</td>
<td>Yes, without Control</td>
</tr>
</tbody>
</table>

Notes:
1. **Coal and ash process weight rates based on boiler capacity and nominal characteristics** (heat input 239 MMBtu/hr, coal HHV 11,000 Btu/lb, and ash as spreader stoker emission factor of 66 lb/ton of coal)

Interpolation of the table in 326 IAC 6-3-2(e) for process weight rates 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

Interpolation and extrapolation of the table in 326 IAC 6-3-2(e) for process weight rates in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

\[ E = 55.0 P^{0.11} - 40 \]

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

(c) Pursuant to 326 IAC 6-3-1.5(2), the units listed in the table below are not subject to the requirements of 326 IAC 6-3, since these processes do not emit particulate matter in the production of a product:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-28</td>
<td>Carbon reactivation furnace</td>
</tr>
<tr>
<td>LA-28B</td>
<td>Carbon reactivation furnace</td>
</tr>
<tr>
<td>LA-44</td>
<td>Zurn boiler</td>
</tr>
<tr>
<td>LA-45</td>
<td>Riley Stoker boiler</td>
</tr>
<tr>
<td>LA-46</td>
<td>Cleaver Brooks boiler</td>
</tr>
<tr>
<td>LA-52</td>
<td>Spent filter aid aspiration system</td>
</tr>
<tr>
<td>LA-55</td>
<td>Coal silo aspiration system</td>
</tr>
<tr>
<td>LA-56</td>
<td>Coal bunkers aspiration system</td>
</tr>
<tr>
<td>LAC-600</td>
<td>Regenerative thermal oxidizer (RTO) #1</td>
</tr>
<tr>
<td>LAC-601</td>
<td>RTO #2</td>
</tr>
<tr>
<td>LAC-602</td>
<td>RTO #3</td>
</tr>
</tbody>
</table>

326 IAC 7-1.1 (Sulfur Dioxide Limitations)

(a) Units listed in the table below are not subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they do not have the potential to emit SO\(_2\).

<table>
<thead>
<tr>
<th>LA-1</th>
<th>LA-33</th>
<th>LA-42B</th>
<th>LA-65A</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-2</td>
<td>LA-34</td>
<td>LA-51</td>
<td>LA-76</td>
</tr>
<tr>
<td>LA-18</td>
<td>LA-35</td>
<td>LA-51A</td>
<td>LA-77</td>
</tr>
<tr>
<td>LA-21</td>
<td>LA-36</td>
<td>LA-51B</td>
<td>LA-78</td>
</tr>
<tr>
<td>LA-21B</td>
<td>LA-37</td>
<td>LA-52</td>
<td>LA-79</td>
</tr>
<tr>
<td>LA-22</td>
<td>LA-38</td>
<td>LA-56</td>
<td>LA-80</td>
</tr>
<tr>
<td>LA-29</td>
<td>LA-41</td>
<td>LA-63</td>
<td>LA-81</td>
</tr>
<tr>
<td>LA-31</td>
<td>LA-42A</td>
<td>LA-64</td>
<td>LA-83</td>
</tr>
<tr>
<td>LA-32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Units listed in the table below are not subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they have the potential to emit SO\(_2\) less than 25 tons per year or ten tons per hour, each.

<table>
<thead>
<tr>
<th>LA-8</th>
<th>LA-46</th>
<th>LA-62A</th>
<th>LA-85</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-17A</td>
<td>LA-47</td>
<td>LA-62B</td>
<td>LAC-601</td>
</tr>
<tr>
<td>LA-17B</td>
<td>LA-60</td>
<td>LA-74</td>
<td>LAC-600</td>
</tr>
<tr>
<td>LA-43</td>
<td>LA-61</td>
<td>LA-84</td>
<td>LAC-602</td>
</tr>
</tbody>
</table>
(c) Units listed in the table below are subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they have a potential to emit greater than 25 tons per year of SO₂, each. However, these units are not combustion sources, therefore, there are no applicable limitations pursuant to 326 IAC 7-1.1-2.

| LA-53 | LA-70 | LA-72 | LA-75 |
| LA-61 | LA-71 | LA-73 |

(c) Units listed in the table below are subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they have the potential to emit greater than 25 tons per year of SO₂, each. 326 IAC 7-1.1-2 contains sulfur dioxide emission limitations for fuel combustion units combusting coal, residual oil, or distillate oil.

| LA-15 | LA-28B | LA-44 | LA-45 |
| LA-28 |

The units are subject to the requirements of 326 IAC 7-1.1-2, as follows:

1. LA-15 and LA-28B combust only natural gas. There are no applicable requirements for units that combust natural gas in 326 IAC 7-1.1-2.

2. LA-28 and LA-44 combust natural gas or No. 2 fuel oil. There are no applicable requirements in 326 IAC 7-1.1-2 for LA-28 or LA-44 when combusting natural gas.

3. Pursuant to 326 IAC 7-1.1-2(a)(3), the sulfur dioxide (SO₂) emissions from LA-28 and LA-44 shall not exceed 0.5 pounds per MMBtu heat input when combusting No. 2 fuel oil.

4. Pursuant to 326 IAC 7-1.1-2(a)(1), sulfur dioxide emissions from boiler LA-45 shall not exceed 6.0 pounds per MMBtu when combusting coal.

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

(a) Units listed in the table below are not subject to the requirements of 326 IAC 8-1-6 because these units were constructed before January 1, 1980.

| LA-11 | LA-28 | LA-41 | LA-65A |
| LA-21 | LA-29 | LA-42A | LA-70 |
| LA-31 | LA-32 | LA-42B (East & West) | LA-71 |
| LA-15 | LA-33 | LA-43 | LA-72 |
| LA-17A | LA-34 | LA-44 | LA-73 |
| LA-17B | LA-35 | LA-45 | LA-74 |
| LA-18 | LA-36 | LA-55 | LA-75 |
| LA-21 | LA-37 | LA-56 | LA-76 |
| LA-22 | LA-38 | LA-61 | LA-78 |

Notes:
1. Unit may also be excluded because it does not have the potential to emit VOC.

(b) Units listed in the table below were constructed after January 1, 1980 but not subject to the requirements of 326 IAC 8-1-6 because the potential to emit VOC of each unit is less than twenty five (25) tons per year.

| LA-21B | LA-52 | LA-77 | LA-84 |
| LA-31 | LA-62A | LA-79 | LA-85 |
| LA-46 | LA-62B | LA-80 | LAC-600 |
Pursuant to SSM No. 157-11449-00033, issued on August 16, 2000, and 326 IAC 8-1-6, the VOC emissions from facilities LA-15 and LA-60 shall be controlled by wet scrubbers, determined to be BACT, having at least forty-five percent (45%) overall VOC control efficiency.

The Germ RST Pre-Dryer (LA-53) was constructed after January 1, 1980. At the time it did not have potential VOC emissions greater than twenty-five (25) tons per year. Modifications since the initial construction have led to potential emissions from LA-53 being greater than twenty-five (25) tons per year. However, 326 IAC 8-1-6 does not apply to modifications. Therefore, the requirements of 326 IAC 8-1-6 are not applicable to LA-53.

Pursuant to 326 IAC 8-1-6 (BACT) and SSM No. 157-24935-00033, issued on October 24, 2007, the Permittee shall control the VOC emissions from carbon reactivation furnace LA-28B with a Best Available Control Technology (BACT), which has been determined to be the following:

1. The VOC emissions from the furnace LA-28B shall be controlled by an afterburner.
2. The VOC emissions from the furnace LA-28B stack (Stack 33B) shall not exceed 1.0 pound per hour.
3. The overall VOC control efficiency for the afterburner (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

326 IAC 10 (Nitrogen Oxide Rules)

The cogeneration units LA-84 and LA-85 are large affected units as defined at 326 IAC 10-2-2(b)(11). LA-84 and LA-85 are cogeneration units with a maximum design heat input capacity of greater than 250 MMBtu/hr, each, commencing construction after January 1, 1999, that qualify as unaffected units under the acid rain program in 40 CFR 72.6(b)(4). The units meet the definition at 40 CFR 72.6(b)(4)(ii) because they will supply equal to or less than one-third of their potential electrical output capacity to any utility power distribution system for sale.

Pursuant to 326 IAC 10-2-1(a), the owner or operator of LA-84 and LA-85 shall comply with the nitrogen oxide (NOx) monitoring, record keeping, and reporting requirements in sections 326 IAC 10-2-3 through 326 IAC 10-2-8.

1. Pursuant to 326 IAC 10-2-3, the owner or operator of a large affected unit, and to the extent applicable, the designated representative, shall comply with the monitoring, record keeping, and reporting requirements as provided in 326 IAC 10-2 and in 40 CFR 75, Subpart H.

(A) The owner or operator of each large affected unit shall do the following:

(i) Install all monitoring systems required under this section for monitoring NOx ozone season mass emissions and individual unit heat input. This includes all systems required to monitor the following operating parameters in accordance with 40 CFR 75.71 and 40 CFR 75.72, as applicable:

(a) NOx emission rate.
(b) NOx concentration.
(c) Stack gas moisture content.
(d) Stack gas flow rate.
(e) Carbon dioxide (CO2) or ozone (O2) concentration.
(f) Fuel flow rate.

(ii) Complete all certification tests required under section 5(b) of this rule and meet all other requirements of this section and 40 CFR 75 applicable to the monitoring systems under subdivision (i).

(iii) Record, report, and quality assure the data from the monitoring systems under subdivision (i).

(B) The designated representative for a large affected unit shall submit written notice to the department and U.S. EPA in accordance with 40 CFR 75.61.

(C) The owner or operator of a large affected unit is subject to the applicable provisions of 40 CFR 75 concerning units in long term cold storage.

(D) The prohibitions in 40 CFR 75.70(c) apply to any monitoring system, alternative monitoring system, alternative reference method, or any other alternative for a continuous emissions monitoring system required under this rule.

(2) Pursuant to 326 IAC 10-2-4(a), the owner or operator shall record, report, and quality assure the data from the monitoring systems under 326 IAC 10-2-3(b)(1) on and after the following dates:

(A) For the owner or operator of a large affected unit that commences operation after the effective date of 326 IAC 10-2, and that reports on an annual basis under 326 IAC 10-2-8(b), by one hundred eighty (180) calendar days after the date on which the unit commences commercial operation.

(B) For the owner or operator of a large affected unit that commences operation after the effective date of this rule, and that reports on a control period basis under 326 IAC 10-2-8(b), by the later of the following dates:

(i) One hundred eighty (180) calendar days after the date on which the unit commences commercial operation.

(ii) If the compliance date under clause (i) is not during a control period, then by May 1 immediately following the compliance date under clause (i).

(3) Pursuant to 326 IAC 10-2-4(b), the owner or operator of a large affected unit that does not meet the applicable compliance date set forth in 326 IAC 10-2-4(a) for any monitoring system under 326 IAC 10-2-3 shall, for each monitoring system, determine, record, and report maximum potential or, as appropriate, minimum potential, values for the following:

(A) NOx emission rate.
(B) NOx concentration.
(C) Stack gas moisture content.
(D) Stack gas flow rate.
(E) Fuel flow rate.
(F) Any other parameters required to determine NOx mass emissions and heat input in accordance with the following, as applicable:

(i) 40 CFR 75.31(b)(2).
(ii) 40 CFR 75.31(c)(3).
(4) Pursuant to 326 IAC 10-2-5(c), the owner or operator of a large affected unit shall comply with the initial certification and recertification procedures in 40 CFR 75.20 for a continuous monitoring system (a continuous emission monitoring system or an excepted monitoring system under 40 CFR 75, Appendix D or 40 CFR 75, Appendix E). The owner or operator of a unit that qualifies to use the low mass emissions (LME) excepted monitoring methodology under 40 CFR 75.19 or that qualifies to use an alternative monitoring system under 40 CFR 75, Subpart E shall comply with the procedures in paragraph (5), below, or 326 IAC 10-2-7(b), respectively.

(5) Pursuant to 326 IAC 10-2-5(d), the owner or operator of a unit qualified under 40 CFR 75.19 to use the LME excepted methodology shall meet the applicable certification and recertification requirements in 40 CFR 75.19(a)(2) and 40 CFR 75.20(h). If the owner or operator of the unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall meet the certification and recertification requirements in 40 CFR 75.20(g).

(6) Pursuant to 326 IAC 10-2-6, if a monitoring system fails to meet the quality assurance and quality control requirements or data validation requirements of 40 CFR 75, data must be substituted using the applicable missing data procedures from one (1) of the following:

(A) 40 CFR 75, Subpart D.
(B) 40 CFR 75, Subpart H.
(C) 40 CFR 75, Appendix D.
(D) 40 CFR 75, Appendix E.

(7) Pursuant to 326 IAC 10-2-7(a), a petition under 40 CFR 75.66 requesting approval of alternatives to any requirement of section 3, 4, 5, 6, or 8 of 326 IAC 10-2 may be made as follows:

(A) The designated representative of a large affected unit that is not subject to an acid rain limitation may submit a petition to both the department and U.S. EPA requesting approval to apply an alternative to any requirement of section 3, 4, 5, 6, or 8 of 326 IAC 10-2. The designated representative may not use the alternative unless the alternative is approved in writing by both the department and U.S. EPA.

(8) Pursuant to 326 IAC 10-2-7(b), the designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by U.S. EPA and, if applicable, the department under 40 CFR 75, Subpart E, shall comply with the applicable notification and application procedures of 40 CFR 75.20(f).

(9) Pursuant to 326 IAC 10-2-8(a), the designated representative of a large affected unit shall comply with all applicable record keeping and reporting requirements in 326 IAC 10-2-8 and 40 CFR 75.73, as follows:

(1) The owner or operator of a large affected unit shall comply with requirements of both:

(A) 40 CFR 75.73(c); and
(B) 40 CFR 75.73(e).
(2) The designated representative shall submit an application to the department within forty-five (45) days after completing all initial certification or recertification tests required under 326 IAC 10-2-5, including the information required under 40 CFR 75.63.

(10) Pursuant to 326 IAC 10-2-8(b), the designated representative shall submit quarterly reports as follows:

(A) If the owner or operator of the unit chooses to report on an annual basis under this section, the designated representative shall:

(i) Meet the requirements of 40 CFR 75, Subpart H for the entire year; and

(ii) Report the NOx mass emissions data and heat input data in an electronic quarterly report in a format prescribed by U.S. EPA, for each calendar quarter corresponding to the earlier of:

(a) The date of provisional certification; or

(b) For a unit that commences commercial operation on or after the effective date of this rule, the calendar quarter corresponding to the earlier of:

(f) The date of provisional certification; or

(2) The applicable deadline for initial certification under 326 IAC 10-2-4(a).

(B) If the large affected unit is not subject to an acid rain emissions limitation, the designated representative shall meet either of the following requirements:

(i) If the owner or operator chooses to report on an annual basis, both of the following:

(a) Meet the requirements of 40 CFR 75, Subpart H for the entire year.

(b) Report the NOx mass emissions data and heat input data for the unit in accordance with this clause.

(ii) If the owner or operator does not choose to report on an annual basis, both of the following:

(a) Meet the requirements of 40 CFR 75, Subpart H for the control period.

(b) Report NOx mass emissions data and heat input data for the control period in an electronic quarterly report in a format prescribed by U.S. EPA, for each calendar year beginning with:

(f) The effective date of this rule; or

(2) For a unit that commences commercial operation on or after the effective date of this rule, the calendar quarter corresponding to the earlier of:
(A) if it falls during the control period, the date of provisional certification;
(B) if it falls during the control period, the applicable deadline for initial certification under 326 IAC 10-2-4(a); or
(C) if neither subitem (A) nor (B) fall during the control period, the quarter that includes May 1 through June 20 of the first control period after the date of provisional certification or the applicable deadline for initial certification under 326 IAC 10-2-4(a).

(C) For all large affected units subject to 326 IAC 10-2, the designated representative shall submit quarterly reports to U.S. EPA within thirty (30) days following the end of the calendar quarter covered by the report in the manner specified in 40 CFR 75.73(f).

(11) Pursuant to 326 IAC 10-2-8(c), the designated representative shall submit to U.S. EPA a compliance certification, in a format prescribed by U.S. EPA, in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification must state that:

(A) The monitoring data submitted were recorded in accordance with the applicable requirements of this section and 40 CFR 75, including the quality assurance procedures and specifications;
(B) For a unit that is reporting on a control period basis under 326 IAC 10-2-8(b)(2)(B), the NOx mass emission rate and NOx concentration values substituted for missing data under 40 CFR 75, Subpart D are calculated using only values from a control period and do not systematically underestimate NOx emissions.

(12) Pursuant to 326 IAC 10-2-8(d), owners and operators of each large affected unit at the source shall comply with the following record keeping and reporting requirements:

(A) Unless otherwise provided, the owners and operators of each large affected unit at the source shall keep on site each of the following documents:

(i) The current certificate of representation for the designated representative for each large affected unit, and all documents that demonstrate the truth of the statements in the certificate of representation.
(ii) All emissions monitoring information, in accordance with 326 IAC 10-2-3, with retention for a minimum of three (3) years.
(iii) Copies of all reports and other submissions and all records made or required under 326 IAC 10-2 for a period of five (5) years from the date the document was created.

(B) The designated representative of each large affected unit at the source shall submit the reports required under 326 IAC 10-2.

(b) 326 IAC 10-4 (Nitrogen Oxides Budget Trading Program)
The cogeneration units, LA-84 and LA-85 are subject to the requirements of 326 IAC 10-4, because they are large affected units, as defined in 326 IAC 10-4-2(27)(B)(iii), with a maximum design heat input greater than two hundred fifty (250) MMBtus per hour, each, commencing
operation on or after January 1, 1999, and qualifying as an unaffected unit under the acid rain program (ref. 40 CFR 72.6(b)(4)).

Pursuant to 326 IAC 10-4-16(a) (which was repealed with the entirety of 326 IAC 10-4 on July 27, 2018), sections 326 IAC 10-4-1 through 326 IAC 10-4-15 shall not apply to any control period in 2009 or afterward. As new units constructed after the 2009 control period, requirements of the NOx budget trading program are not applicable to the cogen units LA-84 and LA-85.

Although 326 IAC 10-4 has been repealed at the state level it is still effective at the federal level (40 CFR 52.770(b)). IDEM has submitted a SIP Revision, which is still in the review process.

326 IAC 21 (Acid Deposition Control)
326 IAC 21 incorporates by reference the provisions of 40 CFR 72 through 40 CFR 78 for purposes of implementing an acid rain program that meets the requirements of Title IV of the Clean Air Act and to incorporate monitoring, record keeping, and reporting requirements for nitrogen oxide emissions to demonstrate compliance with nitrogen oxides emission reduction requirements. Requirements of the acid rain program are not applicable to LA-84 and LA-85 because the units qualify as unaffected units under the acid rain program (ref. 40 CFR 72.6(b)(4)).

326 IAC 24 (Cross-State Air Pollution Rule (CSAPR) Programs)

(a) 326 IAC 24-5 (Nitrogen Oxides (NOx) Annual Trading Program)
326 IAC 24-5 applies to CSAPR NOx annual units and CSAPR NOx annual sources as specified in 40 CFR 97.404. LA-84 and LA-85 are not NOx Annual units as defined at 40 CFR 97.404(a). The units are not stationary, fossil-fuel-fired boilers or stationary, fossil-fuel-fired combustion turbines serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale. LA-84 and LA-85 do not produce electricity for sale, therefore the requirements of this rule are not applicable to the units.

(b) 326 IAC 24-6 (Nitrogen Oxides (NOx) Ozone Season Group 2 Trading Program)
326 IAC 24-6 applies to CSAPR NOx Ozone Season Group 2 units and CSAPR NOx Ozone Season Group 2 sources as specified in 40 CFR 97.804. LA-84 and LA-85 are not NOx Ozone Season Group 2 units as defined at 40 CFR 97.804(a). The units are not stationary, fossil-fuel-fired boilers or stationary, fossil-fuel-fired combustion turbines serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale. LA-84 and LA-85 do not produce electricity for sale, therefore the requirements of this rule are not applicable to the units.

(c) 326 IAC 24-7 (Sulfur Dioxide (SO2) Group 1 Trading Program)
326 IAC 24-6 applies to CSAPR SO2 Group 1 units and CSAPR SO2 Group 1 sources as specified in 40 CFR 97.604. LA-84 and LA-85 are not SO2 Group 1 units as defined at 40 CFR 97.604(a). The units are not stationary, fossil-fuel-fired boilers or stationary, fossil-fuel-fired combustion turbines serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale. LA-84 and LA-85 do not produce electricity for sale, therefore the requirements of this rule are not applicable to the units.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 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 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.
If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

(a) The Compliance Determination Requirements applicable to this source are as follows:

(1) The Permittee shall determine PM$_{10}$ emissions for LA-45, LA-84, and LA-85 according to the following equation:

$$E_{P10} = \frac{(Q_{45} \times P_{45}) + (Q_{T84} \times P_{10-T84}) + (Q_{H84} \times P_{10-H84}) + (Q_{T85} \times P_{10-T85}) + (Q_{H85} \times P_{10-H85})}{2,000 \text{ lb/ton}}$$

Where

- $E_{P10}$ = Monthly PM$_{10}$ emissions, tons/month
- $Q_{45}$ = Monthly heat input to LA-45, MMBtu/month
- $P_{45}$ = LA-45 PM emissions limit, lb/MMBtu
- $Q_{T84}$ = Monthly heat input to the LA-84 turbine, MMBtu/month
- $P_{10-T84}$ = LA-84 turbine PM$_{10}$ emission factor, lb/MMBtu
- $Q_{H84}$ = Monthly heat input to the LA-84 HRSG, MMBtu/month
- $P_{10-H84}$ = LA-84 HRSG PM$_{10}$ emission factor, lb/MMBtu
- $Q_{T85}$ = Monthly heat input to the LA-85 turbine, MMBtu/month
- $P_{10-T85}$ = LA-85 turbine PM$_{10}$ emission factor, lb/MMBtu
- $Q_{H85}$ = Monthly heat input to the LA-85 HRSG, MMBtu/month
- $P_{10-H85}$ = LA-85 HRSG PM$_{10}$ emission factor, lb/MMBtu

The Riley Stoker Boiler, LA-45, is not subject to a limit or testing requirement for PM$_{10}$. Upon review of the relevant section of AP-42, IDEM, OAQ finds that the post-control PM emissions can be expected to be greater than the combined filterable and condensable PM$_{10}$ emissions and that the PM emissions are therefore a conservative surrogate for total PM$_{10}$.

(2) The Permittee shall determine PM$_{2.5}$ emissions for LA-45, LA-84, and LA-85 according to the following equation:

$$E_{P2.5} = \frac{(Q_{45} \times P_{45}) + (Q_{T84} \times P_{2.5-T84}) + (Q_{H84} \times P_{2.5-H84}) + (Q_{T85} \times P_{2.5-T85}) + (Q_{H85} \times P_{2.5-H85})}{2,000 \text{ lb/ton}}$$

Where

- $E_{P2.5}$ = Monthly PM$_{2.5}$ emissions, tons/month
- $Q_{45}$ = Monthly heat input to LA-45, MMBtu/month
- $P_{45}$ = LA-45 PM emissions limit, lb/MMBtu
- $Q_{T85}$ = Monthly heat input to the LA-85 turbine, MMBtu/month
- $P_{10-T85}$ = LA-85 turbine PM$_{10}$ emission factor, lb/MMBtu
- $Q_{H85}$ = Monthly heat input to the LA-85 HRSG, MMBtu/month
- $P_{10-H85}$ = LA-85 HRSG PM$_{10}$ emission factor, lb/MMBtu
QT84 = Monthly heat input to the LA-84 turbine, MMBtu/month

P_{2.5-T84} = LA-84 turbine PM_{2.5} emission factor, lb/MMBtu

= 0.0105 lb/MMBtu or the value determined in the most recent approved stack test

Q_{H84} = Monthly heat input to the LA-84 HRSG, MMBtu/month

P_{2.5-H84} = LA-84 HRSG PM_{2.5} emission factor, lb/MMBtu

= 0.0156 lb/MMBtu or the value determined in the most recent approved stack test

QT85 = Monthly heat input to the LA-85 turbine, MMBtu/month

P_{2.5-T85} = LA-85 turbine PM_{2.5} emission factor, lb/MMBtu

= 0.0105 lb/MMBtu or the value determined in the most recent approved stack test

Q_{H85} = Monthly heat input to the LA-85 HRSG, MMBtu/month

P_{2.5-H85} = LA-85 HRSG PM_{2.5} emission factor, lb/MMBtu

= 0.0156 lb/MMBtu or the value determined in the most recent approved stack test

The Riley Stoker Boiler, LA-45, is not subject to a limit or testing requirement for PM_{2.5}. Upon review of the relevant section of AP-42, IDEM, OAQ finds that the post-control PM emissions can be expected to be greater than the combined filterable and condensable PM_{2.5} emissions and that the PM emissions are therefore a conservative surrogate for total PM_{2.5}.

(3) The Permittee shall determine NOx emissions for LA-45, LA-84, and LA-85 according to the following equation:

\[ E_{NOX} = \frac{(T_{45} \times N_{45}) + (Q_{T84} \times N_{T84}) + (Q_{H84} \times N_{H84}) + (Q_{T85} \times N_{T85}) + (Q_{H85} \times N_{H85})}{2,000 \text{ lb/ton}} \]

Where \( E_{NOX} \) = Monthly NOx emissions, tons/month

\( T_{45} \) = Monthly LA-45 coal consumption, tons/month

\( N_{45} \) = LA-45 NOx emission factor, lb/ton

\( = 11.0 \text{ lb/ton} \)

\( Q_{T84} \) = Monthly heat input to the LA-84 turbine, MMBtu/month

\( N_{T84} \) = LA-84 turbine NOx emission factor, lb/MMBtu

\( = 0.0921 \text{ lb/MMBtu or the results from a qualified NOx CEMs} \)

\( Q_{H84} \) = Monthly heat input to the LA-84 HRSG, MMBtu/month

\( N_{H84} \) = LA-84 HRSG NOx emission factor, lb/MMBtu

\( = 0.10 \text{ lb/MMBtu or the results from a qualified NOx CEMs} \)

\( Q_{T85} \) = Monthly heat input to the LA-85 turbine, MMBtu/month

\( N_{T85} \) = LA-85 turbine NOx emission factor, lb/MMBtu

\( = 0.0921 \text{ lb/MMBtu or the results from a qualified NOx CEMs} \)

\( Q_{H85} \) = Monthly heat input to the LA-85 HRSG, MMBtu/month

\( N_{H85} \) = LA-85 HRSG NOx emission factor, lb/MMBtu

\( = 0.10 \text{ lb/MMBtu or the results from a qualified NOx CEMs} \)

(4) The baghouses (531001 and 531003) for particulate control shall be in operation and control emissions from LA-1 and LA-2 at all times that the facilities are in operation.

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.
(5) The scrubber (LAC-70) shall be in operation and control SO₂ emissions from LA-70 at all times that the millhouse aspiration process (LA-70) facility is in operation.

(6) The control devices listed below shall be in operation and control emissions from the associated process at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process IDs</th>
<th>Pollutants Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiclone (539113)</td>
<td>LA-45</td>
<td>Particulate</td>
</tr>
<tr>
<td>ESP (539115)</td>
<td>LA-45</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-8</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-15</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-17A</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber (LAC-67)</td>
<td>LA-8, LA-15, LA-17A</td>
<td>Particulate, SO₂, VOC</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-47</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone</td>
<td>LA-60</td>
<td>Particulate</td>
</tr>
<tr>
<td>Cyclone</td>
<td>LA-53</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber (LAC-69)</td>
<td>LA-47, LA-60, LA-53</td>
<td>Particulate, SO₂, VOC</td>
</tr>
<tr>
<td>RTOs (LAC-600, LAC-601, and/or LAC-602)</td>
<td>LA-8, LA-15, LA-17A, LA-47</td>
<td>VOC, CO</td>
</tr>
<tr>
<td></td>
<td>LA-60, LA-53</td>
<td>VOC</td>
</tr>
<tr>
<td>Scrubber (LAC-70)</td>
<td>LA-70</td>
<td>SO₂, VOC</td>
</tr>
<tr>
<td>Integral Cyclone (534338)</td>
<td>LA-17B</td>
<td>Particulate</td>
</tr>
<tr>
<td>Integral Cyclone (LAC-43)</td>
<td>LA-43</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber (LAC-17B)</td>
<td>LA-17B, LA-43</td>
<td>Particulate</td>
</tr>
</tbody>
</table>

(7) The rotary dryers, LA-17, LA-60, LA-47 and LA-53, are not required to be controlled by the RTOs during shutdown of these units. Shutdown is defined as the period of time between when the material feed system to a rotary dryer is stopped and when any remaining material is removed from the rotary dryer. VOC emissions during the shutdown of the rotary dryers will be minimized by following the Shutdown Emissions Minimization Plan in the table below:

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shut off feed to the dryer</td>
<td>This will discontinue the source of VOC emissions (moisture in the co-product) generated in the dryer</td>
</tr>
<tr>
<td>2</td>
<td>Shut off the heat source to the dryer once the feed has been stopped</td>
<td>This will begin the dryer cooling process - as the dryer cools, the evaporative effects of the dryer decrease and reduce the amount of VOC generated</td>
</tr>
<tr>
<td>3</td>
<td>Divert the dryer exhaust from the associated RTO to atmosphere once both the feed is shut off and the heat source is shut off.</td>
<td>This is necessary since introduction of quench air into the dryer will cause the dryer exhaust to exceed the RTO capacity</td>
</tr>
<tr>
<td>Step</td>
<td>Action</td>
<td>Rationale</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>4</td>
<td>Introduce quench air to the dryer. The quench air is initiated no later than 15 minutes after the feed and heat source are shut off. Starting quench air flow is a manual operation. This is because all three conditions are part of the “cooling down” process for the dryer.</td>
<td>Quench air is required to be introduced into the dryer to increase the cooling rate of the dryer in order prevent the potential of a fire in the dryer - this also facilitates minimization of VOC emissions since the material in the dryer is cooled to a certain point, no more volatilization of VOC occurs.</td>
</tr>
</tbody>
</table>

(8) Compliance with SO₂ emissions limitations for LA-44 shall be determined using one of the following options:

(A) Pursuant to 326 IAC 7-2-1(h)(4), the Permittee shall demonstrate that the SO₂ emissions from LA-44 do not exceed five-tenths (0.5) pound per million Btu heat input when combusting #2 fuel oil by:

(i) Providing vendor analysis of fuel delivered (including Btu per gallon and percent sulfur), if accompanied by a vendor certification, or;

(ii) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(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

(B) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for SO₂ emissions from boiler LA-44 using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to a method specified above shall not be refuted by evidence of compliance pursuant to the other method.

(9) Compliance with SO₂ emissions limitations for LA-45 shall be determined using one of the following options:

(A) Pursuant to 326 IAC 7-2-1(h)(5), the Permittee shall provide vendor analysis of coal delivered. If accompanied by a certification from the fuel supplier, the certification shall include:

(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 coal 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.

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

(B) Pursuant to 326 IAC 7-2-1(h)(4), the Permittee shall sample and analyze the coal using one of the following procedures:

(i) Minimum Coal Sampling Requirements and Analysis Methods:

(a) The coal sample acquisition point shall be at a location where representative samples of the total coal flow to be combusted by the facility or facilities may be obtained. A single as-bunkered or as-burned sampling station may be used to represent the coal to be combusted by multiple facilities using the same stockpile feed system;

(b) Coal shall be sampled at least one (1) time per day;

(c) Minimum sample size shall be five hundred (500) grams;

(d) Samples shall be composited and analyzed at the end of each calendar quarter;

(e) Preparation of the coal sample, heat content analysis, and sulfur content analysis shall be determined pursuant to 326 IAC 3-7-2(c), (d), (e); or

(ii) Sample and analyze the coal pursuant to 326 IAC 3-7-3; or

(C) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for sulfur dioxide emissions from LA-45, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, which is conducted with such frequency as to generate the amount of information required by (a) or (b) above. [326 IAC 7-2-1(b)]

A determination of noncompliance pursuant to any of the methods specified in (A), (B), or (C) above shall not be refuted by evidence of compliance pursuant to another method.

(10) The control devices listed below shall be in operation and control emissions from the associated processes at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process IDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse LAC-18</td>
<td>LA-18</td>
</tr>
<tr>
<td>Baghouse LAC-21</td>
<td>LA-21</td>
</tr>
<tr>
<td>Baghouse LAC-21B</td>
<td>LA-21B</td>
</tr>
<tr>
<td>Baghouse LAC-22</td>
<td>LA-22</td>
</tr>
<tr>
<td>Baghouse LAC-64</td>
<td>LA-64</td>
</tr>
<tr>
<td>Baghouse LAC-83</td>
<td>LA-83</td>
</tr>
<tr>
<td>Cyclone LAC-63</td>
<td>LA-63</td>
</tr>
<tr>
<td>Cyclone LAC-79</td>
<td>LA-79</td>
</tr>
<tr>
<td>Cyclone LAC-80</td>
<td>LA-80</td>
</tr>
<tr>
<td>Cyclone LAC-81</td>
<td>LA-81</td>
</tr>
<tr>
<td>Scrubber LAC-77</td>
<td>LA-77</td>
</tr>
</tbody>
</table>
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.

(11) The control devices listed below shall be in operation and control emissions from the associated processes at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process IDs</th>
<th>Pollutants Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse LAC-31</td>
<td>LA-31</td>
<td>Particulate</td>
</tr>
<tr>
<td>Baghouse LAC-32</td>
<td>LA-32</td>
<td>Particulate</td>
</tr>
<tr>
<td>Baghouse LAC-52</td>
<td>LA-52</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-28</td>
<td>LA-28</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-28B</td>
<td>LA-28B</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-29</td>
<td>LA-29</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-51</td>
<td>LA-51</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-51A</td>
<td>LA-51A</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-51B</td>
<td>LA-51B</td>
<td>Particulate</td>
</tr>
<tr>
<td>Scrubber LAC-61</td>
<td>LA-61</td>
<td>SO₂</td>
</tr>
<tr>
<td>Cyclone 53L605</td>
<td>LA-51</td>
<td>Particulate</td>
</tr>
<tr>
<td>(integral)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krystar Dryer/Cooler</td>
<td>LA-51A</td>
<td>Particulate</td>
</tr>
<tr>
<td>System No. 2 cyclones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afterburner LAC-28BB</td>
<td>LA-28B</td>
<td>VOC and CO</td>
</tr>
</tbody>
</table>

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.

(12) Compliance with SO₂ emissions limitations for LA-28 shall be determined using one of the following options:

(A) Pursuant to 326 IAC 7-2-1(h)(4), the Permittee shall demonstrate that the SO₂ emissions from LA-28 do not exceed five-tenths (0.5) pound per million Btu heat input when combusting #2 fuel oil by:

(i) Providing vendor analysis of fuel delivered (including Btu per gallon and percent sulfur), if accompanied by a vendor certification, or;

(ii) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(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.
B) Pursuant to 326 IAC 7-2-1(h)(1), compliance may also be determined by conducting a stack test for SO2 emissions from furnace LA-28 using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to a method specified above shall not be refuted by evidence of compliance pursuant to the other method.

(13) The control devices listed below shall be in operation and control emissions from the associated process at all times that the facilities are in operation.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Associated Process ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse (LAC-33)</td>
<td>LA-33</td>
</tr>
<tr>
<td>Baghouse (LAC-34)</td>
<td>LA-34</td>
</tr>
<tr>
<td>Baghouse (LAC-35)</td>
<td>LA-35</td>
</tr>
<tr>
<td>Baghouse (LAC-36)</td>
<td>LA-36</td>
</tr>
<tr>
<td>Baghouse (LAC-37)</td>
<td>LA-37</td>
</tr>
<tr>
<td>Baghouse (LAC-38)</td>
<td>LA-38</td>
</tr>
<tr>
<td>Rotoclone (LAC-55)</td>
<td>LA-55</td>
</tr>
<tr>
<td>Rotoclone (LAC-56)</td>
<td>LA-56</td>
</tr>
<tr>
<td>Baghouse (LAC-42A)</td>
<td>LA-42A</td>
</tr>
<tr>
<td>Bin Vent (LAC-42B East)</td>
<td>LA-42B East</td>
</tr>
<tr>
<td>Bin Vent (LAC-42B West)</td>
<td>LA-42B West</td>
</tr>
</tbody>
</table>

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.

(14) The Permittee shall demonstrate compliance with emissions limitations for coal and ash handling operations identified below by limiting the units to the hours of operation shown in the table:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Operational Limit</th>
<th>Allowable Hours Based on the Following Emission Rates (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-33</td>
<td>1130</td>
<td>1.77</td>
</tr>
<tr>
<td>LA-34</td>
<td>2899</td>
<td>0.69</td>
</tr>
<tr>
<td>LA-35</td>
<td>3922</td>
<td>0.51</td>
</tr>
<tr>
<td>LA-36</td>
<td>8,760 (not limited)</td>
<td>0.23</td>
</tr>
<tr>
<td>LA-42A</td>
<td>8,760 (not limited)</td>
<td>0.16</td>
</tr>
<tr>
<td>LA-42B (East and West)</td>
<td>8,760 (not limited)</td>
<td>0.023</td>
</tr>
</tbody>
</table>

Notes:
1. Hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>Summary of Testing Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Unit</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>LA-45</td>
</tr>
<tr>
<td>Emission Unit</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LA-8</td>
</tr>
<tr>
<td>LA-17A</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LA-15</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LA-33</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LA-35</td>
</tr>
</tbody>
</table>
## Summary of 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>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>9/9/2014 (ACES ID 183365)</td>
<td>PM (0.018 lb/hr)</td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-36</td>
<td>Baghouse (LAC-36)</td>
<td>8/23/2016 (ACES ID 201335)</td>
<td>Opacity (0%)</td>
<td>one-time</td>
<td>40 CFR 60, subpart Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-37</td>
<td>Baghouse (LAC-37)</td>
<td>9/9/2014 (ACES ID 183367)</td>
<td>Opacity (0%)</td>
<td>one-time</td>
<td>40 CFR 60, subpart Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-38</td>
<td>Baghouse (LAC-38)</td>
<td>9/9/2014 (ACES ID 183368)</td>
<td>Opacity (0%)</td>
<td>one-time</td>
<td>40 CFR 60, subpart Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-42A</td>
<td>Baghouse (LAC-42A)</td>
<td>8/23/2016 (ACES ID 201336)</td>
<td>PM (0.017 lb/hr)</td>
<td>every 5 years</td>
<td>326 IAC 2-2-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Opacity (0%)</td>
<td>one-time</td>
<td>40 CFR 60, subpart Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-55</td>
<td>Rotoclone (LAC-55)</td>
<td>9/9/2014 (ACES ID 183369)</td>
<td>Opacity (0%)</td>
<td>one-time</td>
<td>40 CFR 60, subpart Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-56</td>
<td>Rotoclone (LAC-56)</td>
<td>9/9/2014 (ACES ID 183370)</td>
<td>Opacity (0%)</td>
<td>one-time</td>
<td>40 CFR 60, subpart Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>every 5 years</td>
<td>326 IAC 2-7-5(1)</td>
</tr>
<tr>
<td>LA-70</td>
<td>Scrubber (LAC-70)</td>
<td>4/7/2015 (ACES ID 183171)</td>
<td>SO₂ (2.60 lb/hr) (9.85 ppm)</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>LA-71</td>
<td>Scrubber (LAC-71)</td>
<td>12/16/2014 (ACES IS 178254)</td>
<td>SO₂ (1.31 lb/hr)</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>LA-28B</td>
<td>Scrubber (LAC-28B)</td>
<td>12/17/2014 (ACES ID 178253)</td>
<td>CO (2.35 lb/hr)</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VOC (0.45 lb/hr)</td>
<td></td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM (0.11 lb/hr)</td>
<td></td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM10 (0.23 lb/hr)</td>
<td></td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Opacity (12.5%)</td>
<td></td>
<td>326 IAC 5-1</td>
</tr>
<tr>
<td>LA-52</td>
<td>Baghouse (LAC-52)</td>
<td>180 days³</td>
<td>PM</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-51</td>
<td></td>
<td>180 days⁴</td>
<td>PM</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
</tbody>
</table>

³ 180 days
⁴ 180 days
### Summary of 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>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber (LAC-51)</td>
<td></td>
<td></td>
<td>PM₁₀</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₂.₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bagger Aspiration System</td>
<td>LA-51 or LA-51A</td>
<td>180 days⁴</td>
<td>PM</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₁₀</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₂.₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-51A</td>
<td>Scrubber (LAC-51A)</td>
<td>180 days⁴</td>
<td>PM</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₁₀</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₂.₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA-51B</td>
<td>Scrubber (LAC-51B)</td>
<td>180 days⁴</td>
<td>PM</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₁₀</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₂.₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbine #1 or Turbine #2</td>
<td>-</td>
<td>180 days⁵</td>
<td>PM₁₀</td>
<td>one-time</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₂.₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRSG #1 or HRSG #2</td>
<td>-</td>
<td>180 days⁵</td>
<td>PM₁₀</td>
<td>one-time</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM₂.₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Pursuant to 40 CFR 63.7515(b), if the performance tests for a given pollutant for at least 2 consecutive years show that emissions are at or below 75 percent of the emission limit for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions, the Permittee may choose to conduct performance tests for the pollutant every third year.
2. 180 days/180 days means not later than 180 days after issuance of Part 70 Renewal 157-27033-00033 or 180 days after LA-15 is routed to LAC-67 and LA-53 is routed to LAC-69, whichever is later.
3. 180 days means not later than 180 days after the startup of LA-52 following issuance of SSM 157-30513-00033.
4. 180 days means not later than 180 days after the startup of the unit following issuance of SSM 157-35435-00033.
5. 180 days means not later than 180 days after the startup of the earlier of cogen unit #1 (LA-84) of cogen unit #2 (LA-85).

(b) The Compliance Monitoring Requirements applicable to this source are as follows:

1. **Corn receiving and handling:**

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Control</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>Baghouse 531001</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
</tbody>
</table>

These monitoring conditions are necessary because the baghouses for the corn receiving and handling processes must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

2. **Corn steeping and milling area:**

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Control</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-70</td>
<td>Scrubber LAC-70</td>
<td>pH</td>
<td>Hourly</td>
<td>&gt; 5.0</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-hour average</td>
<td>6.5 - 7.5</td>
<td>Response Steps</td>
</tr>
</tbody>
</table>
These monitoring conditions are necessary because the scrubber for the millhouse aspiration process must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements).

(3) Feed house and boiler house area:

(A) Parametric monitoring:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Control</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-44</td>
<td>-</td>
<td>Visible Emissions</td>
<td>Daily when burning fuel oil</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-8, LA-15, LA-17A (CAM)</td>
<td>Scrubber LAC-67</td>
<td>pH</td>
<td>Hourly</td>
<td>&gt; 5.0</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-hour average</td>
<td>6.5 - 7.5</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate (gaseous section)</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 1,000 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate (particulate section)</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 200 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td>Unit ID</td>
<td>Control</td>
<td>Parameter</td>
<td>Frequency</td>
<td>Range</td>
<td>Excursions and Exceedances</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------</td>
<td>-------------------------</td>
<td>-------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>LA-47, LA-53, LA-60</td>
<td>Scrubber LAC-69</td>
<td>pH</td>
<td>Hourly</td>
<td>&gt; 5.0</td>
<td>Response Steps</td>
</tr>
<tr>
<td>(CAM)</td>
<td></td>
<td></td>
<td>12-hour average</td>
<td>6.5 - 7.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate (gaseous section)</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 500 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate (particulate section)</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 100 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-71 (CAM)</td>
<td>Scrubber LAC-67</td>
<td>pH</td>
<td>Hourly</td>
<td>&gt; 5.0</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-hour average</td>
<td>6.5 - 7.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate (gaseous section)</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 250 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-17B, LA-43 (CAM)</td>
<td>Scrubber LAC-17B</td>
<td>Flow Rate</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 175 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td>Unit ID</td>
<td>Control</td>
<td>Parameter</td>
<td>Frequency</td>
<td>Range</td>
<td>Excursions and Exceedances</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>LA-45</td>
<td>multiclone 539113</td>
<td>Item 6 in Table 4, 40 CFR 63, subpart DDDD is only applicable to boilers that operate dry control systems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESP 539115</td>
<td>Establish operating limits and monitoring procedures in accordance with 40 CFR 63, Subpart DDDD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LAC-68</td>
<td>pH</td>
<td>Establish operating limits and monitoring procedures in accordance with 40 CFR 63, Subpart DDDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESP</td>
<td>ESP-600, ESP-601, ESP-602</td>
<td>Temperature</td>
<td>Continuous</td>
<td>3-hour average ≥ 1,400°F</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td>Duct Pressure or Fan Amperage</td>
<td>Daily</td>
<td>Determined in stack test</td>
<td>Response Steps</td>
<td></td>
</tr>
</tbody>
</table>

These monitoring conditions are necessary because the feed house and boiler house processes must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

(B) Continuous opacity monitoring systems (COMS):

<table>
<thead>
<tr>
<th>Unit</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Excursions and Exceedances</th>
<th>Authority</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-45</td>
<td>Opacity</td>
<td>Continuous</td>
<td>Response Steps</td>
<td>40 CFR 63, Subpart DDDD</td>
<td>Quarterly for COMS downtime</td>
</tr>
</tbody>
</table>

(C) COMS downtime monitoring:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-45</td>
<td>Visible Emissions</td>
<td>2 times per day</td>
<td>as determined by COMS</td>
<td>Response steps</td>
</tr>
</tbody>
</table>

These monitoring conditions are necessary because the boiler must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 40 CFR 60.

(4) Feed products storage and loadout:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Control</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-21 (CAM)</td>
<td>LAC-21</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td>Unit ID</td>
<td>Control</td>
<td>Parameter</td>
<td>Frequency</td>
<td>Range</td>
<td>Excursions and Exceedances</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>-----------------</td>
<td>-----------</td>
<td>--------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>LA-63 (CAM)</td>
<td>LAC-63</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-64 (CAM)</td>
<td>LAC-64</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-77</td>
<td>LAC-77</td>
<td>Scrubber Flow Rate</td>
<td>Daily</td>
<td>Lowest average of 12 consecutive hourly readings determined once per day ≥ 25 gpm</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-80 (CAM)</td>
<td>LAC-80</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-81 (CAM)</td>
<td>LAC-81</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-83 (CAM)</td>
<td>LAC-83</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
</tbody>
</table>

These monitoring conditions are necessary because the control devices for the feed products storage and loadout processes must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

(5) Refinery area:

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Control</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-28</td>
<td>LAC-28</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate</td>
<td>Daily</td>
<td>≥ 40 gpm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate</td>
<td>Daily</td>
<td>≥ 455 gpm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>afterburner Temperature</td>
<td>Continuous</td>
<td>as determined in stack test</td>
<td>Response Steps</td>
</tr>
<tr>
<td>LA-29 (CAM)</td>
<td>LAC-29</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
<td>Response Steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow Rate</td>
<td>Daily</td>
<td>≥ 50 gpm</td>
<td></td>
</tr>
</tbody>
</table>
These monitoring conditions are necessary because the control devices for the refinery area processes must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

(6) Coal and ash storage and handling area:
These monitoring conditions are necessary because the control devices for the coal and ash storage and handling processes must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

(7) Cogeneration system:

(A) Continuous emissions monitoring systems (CEMS):

<table>
<thead>
<tr>
<th>Unit</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Excursions and Exceedances</th>
<th>Authority</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-84</td>
<td>NOx CEMS</td>
<td>Continuous</td>
<td>Response Steps</td>
<td>40 CFR 60, Subpart KKKK</td>
<td>Quarterly for calibration gas audits and RATA, and CEMS downtime</td>
</tr>
<tr>
<td>LA-85</td>
<td>NOx CEMS</td>
<td>Continuous</td>
<td>Response Steps</td>
<td>40 CFR 60, Subpart KKKK</td>
<td>Quarterly for calibration gas audits and RATA, and CEMS downtime</td>
</tr>
</tbody>
</table>

(B) CEMS downtime monitoring:

<table>
<thead>
<tr>
<th>Control</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Range</th>
<th>Excursions and Exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx CEMS: LA-84 LA-85</td>
<td>stack percent oxygen</td>
<td>once per day</td>
<td>as determined by CEMS</td>
<td>Response steps</td>
</tr>
</tbody>
</table>

These monitoring conditions are necessary because the fuel gas combustion units must operate properly to assure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 40 CFR 60.

 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) IDEM, OAQ added the following new conditions in Section C - Source Operation Conditions to incorporate source-wide requirements relating to continuous opacity monitoring systems (COMS) and continuous emission monitoring systems (CEMS):
C.11 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment, as required in Sections D or E of this permit. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

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

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

C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 3-5]

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

(b) All continuous emission monitoring systems are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

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

(d) Whenever a continuous emission monitoring system is down for more than twenty-four (24) hours, the Permittee shall follow good air pollution control practices.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous monitoring system pursuant to 326 IAC 3-5 or any applicable requirements.

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

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

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

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 157-41643-00033. The staff recommend to the Commissioner that this Part 70 Significant Source Modification be approved.

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:
Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the Part 70 Operating Permit Renewal was received on November 13, 2018. Additional information consisting of the application for a Significant Source Modification was received on July 9, 2019.

The operation of this stationary corn wet milling plant shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. 157-40694-00033.

### DEM Contact

(a) If you have any questions regarding this permit, please contact Doug Logan, 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) 234-5328 or (800) 451-6027, and ask for Doug Logan or (317) 234-5328.

(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).
Page 1 of 49 TSD App A
Appendix A: Emission Calculations
PTE Summary
Company Name:
Source Address:
Significant Source Modification No.:
Part 70 Permit No.:
Reviewer:
Date:
S/V ID
Unit ID
Emissions Unit
Corn Receiving and Handling Operations
1
LA-1
Corn Receiving
2
LA-2
Corn Silo
57
LA-78
12 Corn Storage Silos
Corn Steeping and Milling Operations
40
LA-62A
South Pre-Steep Aspiration
41
LA-62B
North Pre-Steep Aspiration
4
LA-70
Millhouse Aspiration Process
Feedhouse and Boilerhouse
Natural Gas/No. 2 Fuel Oil Fired Zurn
34
LA-44
Boiler (227 MMBtu/hr)
4

LA-45

Coal Fired Riley Stoker Boiler (239
MMBtu/hr)
Natural Gas Cleaver Brooks Boiler (49
MMBtu/hr)
Natural Gas/No. 2 Fuel Oil Fired Fiber
Dryer (58 MMBtu/hr)

5

LA-46

4

LA-8

4

LA-17A

4

LA-15

Natural Gas Fired Gluten Dryer (52
MMBtu/hr)

4

LA-47

Natural Gas/No. 2 Fuel Oil Fired GR
Dryer (55 MMBtu/hr)

4

LA-60

Germ RST Pre-Dryer

Natural Gas/No. 2 Fuel Oil Fired DSLC
Dryer (45 MMBtu/hr)

7

LA-53

Germ RST Finish Dryer No. 3

4

LA-71

Feedhouse Aspiration System

4

LA-17B

4

LA-43

3

LA-22

Cracked Corn Bin

10

LA-21

11

LA-18

Gluten Airveyor System
Germ Cooler Airveyor/Germ Loadout
Bin

9

LA-21B

58
42
59
60

LA-79
LA-63
LA-80
LA-81

Gluten Loadout Bin
Pellet Cooler #1
Combo Pellet Cooler
Pellet Cooler #4
Pellet Cooler #5

43

LA-64

Pellet Storage Bin

54
62
Refinery Area
46
47
53
48
19
32
50
51
20

LA-77
LA-83

Hammermill Aspiration System
Feed Dump Aspiration System

LA-72
LA-73
LA-74
LA-75
LA-29
LA-41
LA-76
LA-65A
LA-31

Mud Centrifuges Vent #1
Mud Centrifuges Vent #2
Mud Centrifuges Vent #3
Jets Foam Trap
Soda Ash Unloading and Storage
2 Hydrochloric Acid Storage Tanks
Hydrochloric Acid Supply Head Tank
Cation IX Drain Tank
Filter Aid Rail/Truck Unloading

21

LA-32

Filter Aid Transfer System

49

LA-61

33

LA-28

MBS Aspiration System
Natural Gas/No. 2 Fuel Oil Fired
Carbon Reactivation Furnace (22
MMBtu/hr)

35

LA-51

Krystar Dryer/Cooler No. 1

35A

LA-51A

Krystar Dryer/Cooler No. 2

Krystar Transportation Aspiration
System
Natural Gas Fired Carbon Reactivation
33B
LA-28B
Furnace (15 MMBtu/hr)
52
LA-52
Spent Filter Aid Aspiration System
Coal Ash Storage and Handling Area
22
LA-33
Coal Unloading Aspiration System
23
LA-34
Crusher & Transfer Aspiration System
Coal Storage Silos Top Aspiration
24
LA-35
System
Coal Storage Silos Bottom Aspiration
25
LA-36
System
26
LA-37
Utility Building Aspiration System #1
27
LA-38
Utility Building Aspiration System #2
28
LA-55
Coal Silo Aspiration System
29
LA-56
Coal Bunkers Aspiration
30B
LA-42A
Coal Ash Transfer System
31A
LA-42B East Ash Silo East Aeration Vent
35B

31B

LA-51B

LA-42B West Ash Silo West Aeration Vent

Cogen System
6
LA-84
7
LA-85
Insignificant Activities

Uncontrolled Potential to Emit (tons/yr)
PM
Control

Cogen Unit #1
Cogen Unit #2
Emergency Generator and Fire Pump
Other2

PM 10

PM 2.51

SO2

NOx

VOC

CO

Baghouse (531001): particulate
Baghouse (531003): particulate
None

8,259
4,505
8.05

8,259
4,505
8.05

1,400
764
1.36

----

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----

----

None
None
Scrubber (LAC-70): SO2, VOC

----

----

----

2.97
2.97
178

----

2.03
2.03
135

----

None

14.46

16.63

11.21

513

272.93

5.36

81.88

Multiclone (539113) and ESP (539115):
particulate, scrubber (LAC-68): SO2,
HCl

3,140

670

261

6,274

523

2.38

238

None

0.40

1.60

1.60

0.13

21.04

1.16

17.67

287

261

164

16.46

65.62

231

1,673

741

674

422

1,631

11.16

81.63

43.80

241

219

137

27.82

35.04

435

1,647

20.01

18.20

11.40

145

--

28.12

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--

--

--

166

--

145

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--

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19,710

19,710

3,362

--

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--

0.13
0.13
0.13

0.52
0.52
0.52

0.52
0.52
0.52

0.04
0.04
0.04

6.87
6.87
6.87

0.38
0.38
0.38

5.77
5.77
5.77
--

Integral Cyclones (534201-4 for LA-8,
534303 for LA-15, 534410 and 534412
for LA-15): particulate; Scrubber (LAC67) shared for LA-8, LA-17A and LA-15:
particulate, SO2, VOC; RTO (LAC-600,
LAC-601, and LAC-602): VOC, CO
Integral Cyclones (53F305, 53F307,
53F309 for LA-47 and 534108 for LA60): particulate; Cyclone (534107 for LA53): particulate; Scrubber (LAC-69)
shared for LA-47, LA-60 and LA-53:
particulate, VOC, SO2; RTO (LAC-600,
LAC-601, and LAC-602): VOC, CO

Scrubber (LAC-71): SO2, VOC
Integral Cyclone/Product Collectors
Feed Cooler and Cyclone
(534338 for LA-17B and LAC-43 for LACracked Corn to GR Conveyor Transfer 43) and Scrubber (LAC-17B) shared for
LA-17B and LA-43: particulate
Cyclone

4
LAC-600 RTO No. 1 (Combustion Emissions)
4
LAC-601 RTO No. 2 (Combustion Emissions)
4
LAC-602 RTO No. 3 (Combustion Emissions)
Feed Products Storage and Loadout

Tate & Lyle Lafayette South
3300 US 52 South, Lafayette, IN 47905
157-41643-00033
157-40694-00033
Doug Logan
10/7/2019

RTO: VOC, CO
RTO: VOC, CO
RTO: VOC, CO
Bin Vent Filter/Baghouse (LAC-22):
particulate
Baghouse (LAC-21): particulate
Bin Vent Filter/Baghouse (LAC-18):
particulate
Bin Vent Filter/Baghouse (LAC-21B):
particulate
Cyclone (LAC-79): particulate
Cyclone (LAC-63): particulate
Cyclone (LAC-80): particulate
Cyclone (LAC-81): particulate
Integral Bin Vent Filter/Baghouse (LAC64): particulate
Scrubber (LAC-77): particulate
Baghouse (LAC-83): particulate

526

526

91.77

--

--

--

4,505

4,505

769

--

--

--

--

1,126

1,126

192

--

--

--

--

1,126

1,126

192

--

--

--

--

150
263
150
150

150
263
150
150

25.62
44.83
25.62
25.62

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3.45

3.45

6.03

--

--

--

--

16.89
282

16.89
282

2.88
48.03

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---

None
None
None
None
Scrubber (LAC-29): particulate
Scrubber (LAC-41): HCl
Scrubber (LAC-76): HCl
Scrubber (LAC-65A): HCl
Baghouse (LAC-31): particulate
Bin Vent Filter/Baghouse (LAC-32):
particulate
Scrubber (LAC-61): SO2

----501
---188

----501
---188

----85.50
---53.12

36.78
36.78
18.39
735
------

----------

0.18
0.18
0.09
30.23
------

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120

120

20.49

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--

--

--

--

26.08

--

--

--

Scrubber (LAC-28): particulate

62.57

62.57

62.57

49.94

14.07

0.52

84.65

360

360

158

--

--

--

--

127

127

55.40

--

--

--

--

Scrubber (LAC-51B): particulate

120

120

52.56

--

--

--

--

Scrubber (LAC-28B): particulate, SO2;
Afterburner (LAC-28BB): VOC, CO
Baghouse (LAC-52): particulate

118

118

118

26.28

13.14

43.80

219

46.93

46.93

8.01

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--

Baghouse (LAC-33): particulate
Baghouse (LAC-34): particulate

7,771
3,003

7,771
3,003

220
84.88

---

---

---

---

Baghouse (LAC-35): particulate

2,253

2,253

63.66

--

--

--

--

Baghouse (LAC-36): particulate

3,679

3,679

104

--

--

--

--

Baghouse (LAC-37): particulate
Baghouse (LAC-38): particulate
Rotoclone (LAC-55): particulate
Rotoclone (LAC-56): particulate
Baghouse (LAC-42A): particulate
None

451
451
158
19.52
1,445
3.94

451
451
158
19.52
1,445
3.94

12.73
12.73
7.43
0.92
40.85
0.01

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Integral Cyclones (53L605) and
Scrubber (LAC-51): particulate
Product recovery cyclones and
Scrubber (LAC-51A): particulate

None

3.94

3.94

0.01

--

--

--

--

None
None

4.18
4.18

27.34
27.34

27.34
27.34

1.55
1.55

211
211

5.15
5.15

47.59
47.59

0.31
20.00
66,129
43,758

0.24
20.00
63,546
43,692

0.24
20.00
9,141
8,388

1.08
10.00
9,898
3,627

7.63
10.00
995
892

0.33
10.00
1,155
1,163

1.72
10.00
4,034
3,891

None
N/A
Total Prior to Cogen System Startup:
Total After Cogen System Startup:

Notes:
1. PM 2.5 is direct PM 2.5
2. Emissions from "other insignificant activities" are conservatively estimated. Note: These emissions do not affect the Part 70, PSD, or HAP status of the source.


### Potentially to Limit After Control (t/h)

<table>
<thead>
<tr>
<th>SV ID</th>
<th>Unit ID</th>
<th>Emissions Unit</th>
<th>Control</th>
<th>PM2.5</th>
<th>PM10</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1</td>
<td>LAC-34</td>
<td>Baghouse (3S101) particulate</td>
<td>9.26</td>
<td>9.26</td>
<td>14.00</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<tr>
<td>LA-2</td>
<td>LAC-37</td>
<td>Baghouse (3S101) particulate</td>
<td>4.51</td>
<td>4.51</td>
<td>7.64</td>
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<td>--</td>
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<tr>
<td>LA-5</td>
<td>LAC-48</td>
<td>Baghouse (3S101) particulate</td>
<td>8.15</td>
<td>8.15</td>
<td>14.80</td>
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<td>--</td>
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<td>LA-6</td>
<td>South Pre-Aspiration</td>
<td>None</td>
<td>--</td>
<td>--</td>
<td>3.97</td>
<td>2.03</td>
<td>--</td>
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<td>--</td>
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<tr>
<td>LA-20A</td>
<td>North Pre-Aspiration</td>
<td>None</td>
<td>--</td>
<td>--</td>
<td>3.97</td>
<td>2.03</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>LA-70</td>
<td>LAC-600</td>
<td>Scrubber (LAC-70)</td>
<td>50.23</td>
<td>--</td>
<td>101</td>
<td>--</td>
<td>--</td>
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<td>--</td>
</tr>
</tbody>
</table>

###Appendix A: Emission Calculations

#### PTE Summary

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3303 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-41643-00033  
**Reviewer:** Doug Logan  
**Date:** 10/1/2019

---

### Emission Calculations

#### Natural Gas Fired Gluten Dryer (52 MMBtu/hr)

- **Particulate:** 4.51  
- **SO2:** -- | **VOC:** -- | **CO:** 3.45  

#### Natural Gas/No. 2 Fuel Oil Fired DSLC Dryer (58 MMBtu/hr)

- **Particulate:** 7.77  
- **SO2:** 2.20 | **VOC:** -- | **CO:** 6.03  

#### Natural Gas Fired Carbon Reactivation Cogen System

- **SO2, NOx, CO:** 141  
- **PM2.5, PM10:** 147  
- **HCl:** 50 | **VOC:** -- | **CO:** 102  

### Other

- **PM2.5 is direct PM2.5**
<table>
<thead>
<tr>
<th>SV ID</th>
<th>Unit ID</th>
<th>Emissions Unit</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>LA-2</td>
<td>Corn Silo</td>
<td>3.70</td>
</tr>
<tr>
<td>22</td>
<td>LA-3</td>
<td>Corn Storage</td>
<td>1.11</td>
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<tr>
<td>23</td>
<td>LA-4</td>
<td>Corn Receiving</td>
<td>1.32</td>
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</tbody>
</table>

**Notes:**
1. Graded cells indicate where limits are included in the permit.
2. PM10 is direct PM10.
3. LA-47 is subject to limits on volatile PM and CO under 40 CFR 22.
4. Emissions from "other insignificant activities" are conservatively estimated. Note: These emissions do not affect the Part 70, PSD, or HAP status of the source.
5. LA-47 is subject to limits on filterable PM and CO under 40 CFR 63, Subpart D. The table shows the PSD avoidance limit for PM and the uncontrolled CO PTE.
### Appendix A: Emission Calculations

#### HAP Summary - Uncontrolled

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Unit ID</th>
<th>Hydrogen Chloride</th>
<th>Hydrogen Fluoride</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Benzene</th>
<th>1,3-Butadiene</th>
<th>Dichloroacete</th>
<th>Ethylbenzene</th>
<th>Formaldehyde</th>
<th>n-Hexane</th>
<th>Naphthalene</th>
<th>Propylene</th>
<th>Oxide</th>
<th>Toluene</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Corn Receiving and Handling Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1A</td>
</tr>
<tr>
<td>LA-2</td>
</tr>
<tr>
<td>LA-37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Corn Grinding and Milling Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-62A</td>
</tr>
<tr>
<td>LA-62B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feedhouse and Boilerhouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-44</td>
</tr>
<tr>
<td>LA-45</td>
</tr>
<tr>
<td>LA-46</td>
</tr>
<tr>
<td>LA-8</td>
</tr>
<tr>
<td>LA-17A</td>
</tr>
<tr>
<td>LA-17B</td>
</tr>
<tr>
<td>LA-43</td>
</tr>
<tr>
<td>LA-28B</td>
</tr>
<tr>
<td>LA-65A</td>
</tr>
<tr>
<td>LA-38</td>
</tr>
<tr>
<td>LA-63</td>
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<td>LA-61</td>
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<tr>
<td>LA-34</td>
</tr>
<tr>
<td>LA-51</td>
</tr>
<tr>
<td>LA-43</td>
</tr>
<tr>
<td>LAC-600</td>
</tr>
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<td>LAC-601</td>
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<td>LA-21B</td>
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<td>LA-42A</td>
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<td>LA-74</td>
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<td>LA-51B</td>
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<td>LA-42B West</td>
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<td>LA-33</td>
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<td>LA-75</td>
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<td>LA-22</td>
</tr>
<tr>
<td>LA-43</td>
</tr>
<tr>
<td>LA-62B</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Toluene</th>
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<tbody>
<tr>
<td>LA-18</td>
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<tr>
<td>LA-77</td>
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<td>LA-60</td>
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<td>LA-45</td>
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<td>LA-8</td>
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<tr>
<td>LA-32</td>
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<td>LA-53</td>
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<td>LA-71</td>
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<tr>
<td>LA-47</td>
</tr>
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</table>

| Reviewer: Doug Logan |
| Date: 10/7/2019 |

*Emissions from "other insignificant activities" are conservatively estimated. Note: These emissions do not affect the Part 70, PSD, or HAP status of the source.*
## Appendix A: Emission Calculations

### HAP Summary - Uncontrolled

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Uncontrolled Potential to Emit (ton/year)

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Unit ID</th>
<th>Xylenes</th>
<th>POM</th>
<th>Arsenic</th>
<th>Beryllium</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Cobalt</th>
<th>Lead</th>
<th>Manganese</th>
<th>Mercury</th>
<th>Nickel</th>
<th>Selenium</th>
<th>Combined HAPs</th>
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**Corn Receipting and Handling Ops**

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<th>Unit ID</th>
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<th>POM</th>
<th>Arsenic</th>
<th>Beryllium</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Cobalt</th>
<th>Lead</th>
<th>Manganese</th>
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### Appendix A: Emission Calculations

**HAP Summary - Uncontrolled**

1. **10/7/2019**
2. **Doug Logan**
3. **3300 US 52 South, Lafayette, IN 47905**

**Appendix A: Emission Calculations**

**HAP Summary - Uncontrolled**

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*Emissions from "other insignificant activities" are conservatively estimated. Note: These emissions do not affect the Part 70, PSD, or HAP status of the source."
### Appendix A: Emission Calculations

**HAP Summary - After Control**

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00003  
**Part 70 Permit No.:** 157-40694-00003  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

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<th>Chromium</th>
<th>Cobalt</th>
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<th>Manganese</th>
<th>Mercury</th>
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#### Feed Products Storage and Use

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#### Total After Cogen Startup

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Part 70 Permit No.: 157-41643-00003  
Reviewer: Doug Logan  
Date: 10/7/2019
### Appendix A: Emission Calculations

#### LA-42A -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

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<th>Doug Logan</th>
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**Toluene Xylenes POM Arsenic Beryllium Cadmium Chromium Cobalt Lead Manganese Mercury Nickel Selenium**

### Insignificant Activities

- Coal Ash Storage and Handling Area
- Refinery Area
- Feedhouse and Boilerhouse
- Corn Receiving and Handling Operations
- Emergency Generator and Fire

### Potential to Emit After Issuance(tons/yr)

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### Appendix A: Emission Calculations
#### Historical Netting Analysis

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

This table is from the TSD, SPM 157-35550-00033, issued August 19, 2015, with added notes

The Krystar Expansion Project involves changes to a unit constructed under CP 157-3581, which was a minor modification of a PSD source. Units and values shown in strikethrough text were removed or relocated, units and values shown in bold text indicate current (2015) status.

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<th>TSD Basis</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Emission Unit</strong></td>
<td>ID</td>
<td>Basis (tons/yr)</td>
<td>PTE Basis (tons/yr)</td>
<td>Note</td>
</tr>
<tr>
<td>Corn Receiving LA-1</td>
<td>1993 actual to PTE</td>
<td>6.60</td>
<td>6.60</td>
<td>3581/6008 converted the grain loading and flow rate limit to a lb/hr limit</td>
</tr>
<tr>
<td>Corn Silo LA-2</td>
<td>1993 actual to PTE</td>
<td>2.90</td>
<td>2.90</td>
<td>3581/6008 converted the grain loading and flow rate limit to a lb/hr limit</td>
</tr>
<tr>
<td>Germ RST Pre-Dryer LA-4</td>
<td>1993 actual to PTE</td>
<td>-2.50</td>
<td>-2.38</td>
<td>3581 will be shut down per 3581</td>
</tr>
<tr>
<td>Germ RST Pre-Dryer LA-5</td>
<td>1993 actual to PTE</td>
<td>-2.50</td>
<td>-2.38</td>
<td>3581 will be shut down per 3581</td>
</tr>
<tr>
<td>Feed Cooler LA-17B</td>
<td>1993 actual to PTE</td>
<td>8.20</td>
<td>8.20</td>
<td></td>
</tr>
<tr>
<td>Fiber to GR LA-43</td>
<td>1993 actual to PTE</td>
<td>-0.60</td>
<td>-0.57</td>
<td></td>
</tr>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td>-296.86</td>
<td>-267.69</td>
<td>3581 revised PWR, set limits for New Dryers Scrubber System (LAC-67, -68, -69)</td>
</tr>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td>-329.53</td>
<td>-298.72</td>
<td>3581 revised via prior permitting action subsequent to 3581</td>
</tr>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td>-350.66</td>
<td>-319.86</td>
<td>3581</td>
</tr>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td>-360.83</td>
<td>-320.00</td>
<td>3581</td>
</tr>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td>-368.28</td>
<td>-327.47</td>
<td>3581</td>
</tr>
<tr>
<td><strong>Emissions Increase for CP 157-3581</strong></td>
<td></td>
<td>-375.73</td>
<td>-336.91</td>
<td>3581</td>
</tr>
</tbody>
</table>

**Notes:**
1. CP 157-3581 as modified by TVOP 157-6008-00033  
2. Shut down pursuant to CP 157-3581  
3. CP 157-3581, as modified by SSM 157-11449-00033, AA 157-16939-00033, TVOP 157-6008-00033, and SSM 157-30513-00033  
4. CP 157-3581 as modified by SSM 157-16882-00033 and TVOP 157-6008-00033  
5. CP 157-3581 as modified by SSM 157-35435-00033 and TVOP 157-6008-00033  
6. CP 157-3581 as modified by SSM 157-16770-00033 and TVOP 157-6008-00033  
7. CP 157-3581 as modified by TVOP 157-6008-00033 and SSM 157-30513-00033
1. SSM 157-40283-00033 did not consider the PTE of Filter Aid Unloading to East Storage Bin (LA-31B). The modification involved replacing the existing East and West baghouses (LA-31A and LA-31B) with LA-31. As shown in the table below, after including the PTE of LA-31B, the PTE of the modification remains above the 326 IAC 2-7-10.5(g)(4) threshold.

<table>
<thead>
<tr>
<th>Millhouse Aspiration (LA-70)</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTE Before Modification</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>153.70</td>
</tr>
<tr>
<td>PTE After Modification</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>177.90</td>
</tr>
<tr>
<td>PTE Change</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>24.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filter Aid Rail/Truck Unloading</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTE Before Modification (LA-31A)</td>
<td>33.79</td>
<td>33.79</td>
<td>5.76</td>
<td>0</td>
</tr>
<tr>
<td>PTE Before Modification (LA-31B)</td>
<td>33.79</td>
<td>33.79</td>
<td>5.76</td>
<td>0</td>
</tr>
<tr>
<td>PTE After Modification (new LA-31)</td>
<td>120.12</td>
<td>120.12</td>
<td>10.00</td>
<td>0</td>
</tr>
<tr>
<td>PTE Change</td>
<td>120.12</td>
<td>120.12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PTE Increase From Modification</td>
<td>120.12</td>
<td>120.12</td>
<td>0</td>
<td>24.20</td>
</tr>
<tr>
<td>326 IAC 2-7-10.5(g)(4) threshold</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

Notes:
1. PTE Increase From Modification = greater of (PTE After Modification - PTE Before Modification) or zero
2. Threshold is 10 tons/year of a single HAP or 25 tons/year of a combination of HAPs. Since the combined HAP emissions are 24.20 tons/year, the threshold is met.

2. The determination regarding PSD applicability to SSM 157-40283-00033, found in the 'Permit Level/Technical Support Document for SSM 157-40283-00033 is not affected by this review of Part 70 modification.
B) in determining the modification level under 326 IAC 2-7-10.5.

A new single baghouse (LA-31).

Above the levels specified in 326 IAC 2-7-10.5 (g)(4).

B, SSM 157-40283-00033 have been deleted from

A, SSM 157-40283-00033.

<table>
<thead>
<tr>
<th>Emission Units/Process (ton/year)</th>
<th>NOX</th>
<th>VOC</th>
<th>CO</th>
<th>Combined HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>184.60</td>
<td>0</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>135.00</td>
<td>0</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0</td>
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<td>0</td>
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<td>0.04</td>
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</tr>
<tr>
<td>25</td>
<td>25</td>
<td>25</td>
<td>10/25</td>
<td></td>
</tr>
</tbody>
</table>

* Increase is less than 10 tons/year, individual HAPs are not shown.

Determination - PSD or Emission Offset section of modification thresholds. Potential to Emit of

to SSM 157-40283-00033.
### 1. New Units

<table>
<thead>
<tr>
<th>Source</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-84</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
<tr>
<td>LA-85</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
</tbody>
</table>

### Project Emissions Increase

<table>
<thead>
<tr>
<th>Source</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-84</td>
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<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
</tbody>
</table>

### Project Emissions Increase

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
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<td>210.53</td>
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<td>47.59</td>
<td>182,611</td>
</tr>
<tr>
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<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
</tbody>
</table>

### PSD Significant Level

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-84</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
<tr>
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<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
</tbody>
</table>

### Is PEI Significant?

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-84</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
<tr>
<td>LA-85</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182,611</td>
</tr>
</tbody>
</table>

### Notes:

1. 75,000 tons per year threshold for CO2e is for determining whether the project is subject to regulation as defined at 326 IAC 2-2-1(zz), not a significant emissions increase as defined at 326 IAC 2-2-1(xx).

2. Analysis considers only the pollutants for which the project emissions increase exceeds the significant emissions increase thresholds in 326 IAC 2-2-1(xx).

3. The RTO project, part of SSM 157-30513-00033, was modified in SSM 157-35435-00033.
### Cogen System

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

#### 1. Single SGT

**Heat Input Capacity**  
**MMBtu/hr**  
**MMBtu/yr**

### Full Load Conditions

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Potential Throughput (MMBtu/yr)</th>
<th>Emission Factor in lb/MMBtu</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM2</td>
<td>1.90E-03</td>
<td>1.90E-03</td>
<td>2.70</td>
</tr>
<tr>
<td>PM10</td>
<td>1.05E-02</td>
<td>1.05E-02</td>
<td>14.93</td>
</tr>
<tr>
<td>direct PM2.5</td>
<td>1.05E-02</td>
<td>1.05E-02</td>
<td>14.93</td>
</tr>
<tr>
<td>SO2</td>
<td>7.00E-04</td>
<td>7.00E-04</td>
<td>1.00</td>
</tr>
<tr>
<td>NOx</td>
<td>9.21E-02</td>
<td>9.21E-02</td>
<td>130.94</td>
</tr>
<tr>
<td>VOC</td>
<td>6.00E-04</td>
<td>6.00E-04</td>
<td>0.85</td>
</tr>
<tr>
<td>CO</td>
<td>1.10E-02</td>
<td>1.10E-02</td>
<td>15.64</td>
</tr>
</tbody>
</table>

**Notes:**
1. Provider by the equipment supplier, subject to testing, except as noted.
2. PM (filterable) emission factor from AP-42 Table 3.1-2a, SCC 2-01-002-01, 2-02-002-01 & -02, and 2-03-002-02 & -03

### Methodology

**MMBtu =** 1,000,000 Btu  
**Potential Throughput (MMBtu/yr) =** Heat Input Capacity (MMBtu/hr) x 8,760 (hr/yr)  
**Potential Emissions (tons/yr) =** Potential Throughput (MMBtu/yr) x Emission Factor (lb/MMBtu) / 2,000 (lb/ton)

### HAPS Calculations

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (lb/MMBtu)</th>
<th>Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaldehyde</td>
<td>4.00E-05</td>
<td>5.69E-02</td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td>6.40E-06</td>
<td>9.16E-03</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.20E-05</td>
<td>1.71E-02</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>4.30E-07</td>
<td>6.11E-04</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>3.20E-05</td>
<td>4.55E-02</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.19E-04</td>
<td>0.31</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.30E-06</td>
<td>1.85E-03</td>
</tr>
<tr>
<td>Total PAH</td>
<td>2.20E-06</td>
<td>3.13E-03</td>
</tr>
<tr>
<td>Propylene oxide</td>
<td>2.90E-05</td>
<td>4.12E-02</td>
</tr>
<tr>
<td>Toluene</td>
<td>1.30E-04</td>
<td>1.85E-01</td>
</tr>
<tr>
<td>Xylenes</td>
<td>6.40E-05</td>
<td>9.10E-02</td>
</tr>
</tbody>
</table>

Total 0.76

**Notes:**
2. Source: Table 3.1-3, AP-42, 5th ed. (April 2000) except as noted
3. 91 ppmvd @15% O2, subpart YYYY proposal
4. PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

### Methodology

**Potential Throughput (MMBFtu/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 (hr/yr)**  
**Potential Emissions (tons/yr) =** Potential Throughput (MMBtu/hr) x Emission Factor (lb/MMBtu) / 2,000 (lb/ton)

### Greenhouse Gases (GHGs)

<table>
<thead>
<tr>
<th>Greenhouse Gas</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>112,200</td>
<td>8.772</td>
</tr>
<tr>
<td>CH4</td>
<td>8.743</td>
<td>6.8</td>
</tr>
<tr>
<td>N2O</td>
<td>3.08</td>
<td>2.4</td>
</tr>
</tbody>
</table>

**Summed Potential Emissions in tons/yr**  
87,552

**CO2e Total in tons/yr**  
88,426

### Methodology

**CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).**

### Startup/Shutdown Conditions

**Duration of startup/shutdown (non-full load) conditions:** 1 hour total  
**Number of startup/shutdown events** 5 per year

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Startup/Shutdown Emissions in lb/event</th>
<th>Startup/Shutdown PTE in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>0.01</td>
<td>0.13</td>
</tr>
<tr>
<td>PM10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>direct PM2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td>50.00</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>50.00</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Startup/shutdown event provided by the manufacturer, annual startup/shutdown schedule provided by the source.

### Methodology

**Startup/Shutdown Emissions (lb/hr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu)**  
**Startup/Shutdown Emissions (tons/yr) = S/S Emissions (lb/hr) x Duration (hr/event) x Number (event/yr) / 2,000 (lb/ton)**
## HAPS Calculations

### Cogen System

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905

Significant Source Modification No.: 157-41643-00033  
Part 70 Permit No.: 157-40694-00033

Reviewer: Doug Logan  
Date: 10/7/2019

### HAPS Calculations

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor*</th>
<th>Startup/Shutdown Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/MMBtu)</td>
<td>(lb/hr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(tons/yr)</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>4.45E-05</td>
<td>1.44E-02</td>
</tr>
<tr>
<td>Acrolein</td>
<td>8.31E-06</td>
<td>2.70E-03</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.03E-04</td>
<td>3.34E-02</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>4.29E-07</td>
<td>1.39E-04</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>2.58E-05</td>
<td>8.37E-03</td>
</tr>
<tr>
<td>Formaldehyde†</td>
<td>2.19E-04</td>
<td>7.12E-02</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.37E-06</td>
<td>4.45E-04</td>
</tr>
<tr>
<td>Total PAH†</td>
<td>2.25E-06</td>
<td>7.30E-04</td>
</tr>
<tr>
<td>Propylene oxide</td>
<td>2.86E-05</td>
<td>9.23E-03</td>
</tr>
<tr>
<td>Xylenes</td>
<td>9.37E-05</td>
<td>3.04E-02</td>
</tr>
<tr>
<td>Notes:</td>
<td>Total</td>
<td>0.19</td>
</tr>
</tbody>
</table>

2. Source: All Load values Table 3.4-1, AP-42 background document except as noted  
3. 91 ppbvd @15% O2, subpart YYYY proposal  
4. PAH = Polyaromatic Hydrocarbon. PAHs are considered HAPs, since they are considered Polycyclic Organic Matter

#### Methodology

**Startup/shutdown Emissions (lb/hr) =** Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu)

**Startup/shutdown Emissions (tons/yr) =** 
\[
\text{S/S Emissions (lb/hr)} \times \text{Duration (hr/event)} \times \text{Number (event/yr)} / 2,000 \text{ (lb/ton)}
\]

**Worst case PTE =** greater of full load PTE or PTE with S/S

### HAPS Calculations

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Load w/ S/S</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.69E-02</td>
</tr>
<tr>
<td>Acrolein</td>
<td>9.10E-03</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.11E-02</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>4.55E-02</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1.85E-03</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>3.13E-03</td>
</tr>
<tr>
<td>Total PAH†</td>
<td>4.12E-02</td>
</tr>
<tr>
<td>Toluene</td>
<td>9.10E-02</td>
</tr>
<tr>
<td>Xylenes</td>
<td>9.10E-02</td>
</tr>
<tr>
<td>Total</td>
<td>0.76</td>
</tr>
</tbody>
</table>

**Methodology**

PTE with Startup/Shutdown (tons/yr) = Full Load PTE (tons/yr) x [1 - [(Duration (hr/event) x Number (event/yr)/8,760 (hr/yr)] + S/S PTE (tons/yr)]  
Worst Case PTE (tons/yr) = greater of full load PTE or PTE with S/S

### HAPS Calculations

<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></td>
<td>Full Load PTE (sec 1.4)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.64</td>
</tr>
<tr>
<td></td>
<td>PTE w/ Startup/Shutdown (tons/yr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.88</td>
<td>0.85</td>
<td>15.76</td>
</tr>
<tr>
<td></td>
<td>Worst Case PTE w/ Startup/Shutdown (tons/yr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
</tr>
</tbody>
</table>

**Methodology**

PTE with Startup/Shutdown (tons/yr) = Full Load PTE (tons/yr) x [1 - [(Duration (hr/event) x Number (event/yr)/8,760 (hr/yr)] + S/S PTE (tons/yr)]  
Worst Case PTE (tons/yr) = greater of full load PTE or PTE with S/S

### HAPS Calculations

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td>Full Load w/ S/S</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.69E-02</td>
</tr>
<tr>
<td>Acrolein</td>
<td>9.10E-03</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.11E-02</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>4.55E-02</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1.85E-03</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>3.13E-03</td>
</tr>
<tr>
<td>Total PAH†</td>
<td>4.12E-02</td>
</tr>
<tr>
<td>Toluene</td>
<td>9.10E-02</td>
</tr>
<tr>
<td>Xylenes</td>
<td>9.10E-02</td>
</tr>
<tr>
<td>Total</td>
<td>0.76</td>
</tr>
</tbody>
</table>

**Methodology**

PTE with Startup/Shutdown (tons/yr) = Full Load PTE (tons/yr) x [1 - [(Duration (hr/event) x Number (event/yr)/8,760 (hr/yr)] + S/S PTE (tons/yr)]  
Worst Case PTE (tons/yr) = greater of full load PTE or PTE with S/S

### 2. Single HRSG

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Heat Input Capacity</th>
<th>Potential Throughput</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HHV (MMBtu/hr)</td>
<td>MMBtu</td>
</tr>
<tr>
<td></td>
<td>181.7</td>
<td>1929</td>
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</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (lb/MMMCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td>Full Load w/ S/S</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>1.9</td>
</tr>
<tr>
<td>Acrolein</td>
<td>0.34</td>
</tr>
<tr>
<td>Benzene</td>
<td>0.13</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>1.48</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>0.56</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>4.30</td>
</tr>
</tbody>
</table>

**Notes:**

1. Provider by the equipment supplier, subject to testing, except as noted.
2. PM (filterable) emission factor in lb/MMCF from AP-42 Table 1.4-2

**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/1,020 MMBtu

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)

PTE (lb/hr) = Heat Input Capacity (MMBtu/hr) / HHV (MMBtu/MMCF) x Emission Factor (lb/MMCF) / PM

PTE (tons/yr) = PTE (lb/hr) x 8,760 (hrs/yr) / 2,000 (lb/ton)
### Hazardous Air Pollutants (HAPs)

#### HAPs - Organics

<table>
<thead>
<tr>
<th>Compound</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>1.64E-03</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>9.36E-04</td>
<td>9.36E-04</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>8.58E-02</td>
<td>5.85E-02</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>1.40</td>
<td>2.65E-03</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.46E-03</td>
<td>3.46E-03</td>
</tr>
<tr>
<td>Total</td>
<td>1.47</td>
<td>1.47</td>
</tr>
</tbody>
</table>

#### HAPs - Metals

<table>
<thead>
<tr>
<th>Compound</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>3.90E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
<td>9.58E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
<td>1.09E-03</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
<td>9.36E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
<td>2.96E-04</td>
</tr>
<tr>
<td>Total</td>
<td>4.28E-03</td>
<td>4.28E-03</td>
</tr>
</tbody>
</table>

**Notes:**
1. The five highest organic and metal HAPs emission factors from AP-42, Tables 1.4-2 and 1.4-3

#### Methodology

**Greenhouse Gases (GHGs)**

<table>
<thead>
<tr>
<th>Gas</th>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂</td>
<td>120,000</td>
<td>93,629</td>
</tr>
<tr>
<td>CH₄</td>
<td>2.3</td>
<td>1.8</td>
</tr>
<tr>
<td>N₂O</td>
<td>2.2</td>
<td>1.7</td>
</tr>
<tr>
<td>CO₂e Total</td>
<td>94,185</td>
<td>94,185</td>
</tr>
</tbody>
</table>

#### Combined Potential to Emit

<table>
<thead>
<tr>
<th>Criteria Pollutants</th>
<th>PM</th>
<th>PM₁₀</th>
<th>direct PM₂⁵</th>
<th>SO₂</th>
<th>NOₓ</th>
<th>VOC</th>
<th>CO</th>
<th>CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-84</td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
<td>88.426</td>
</tr>
<tr>
<td>HRSG #1</td>
<td>1.48</td>
<td>12.42</td>
<td>12.42</td>
<td>0.56</td>
<td>79.58</td>
<td>4.30</td>
<td>31.83</td>
<td>94.185</td>
</tr>
<tr>
<td>Total of LA-84</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182.611</td>
</tr>
<tr>
<td>LA-85</td>
<td>2.70</td>
<td>14.93</td>
<td>14.93</td>
<td>1.00</td>
<td>130.94</td>
<td>0.85</td>
<td>15.76</td>
<td>88.426</td>
</tr>
<tr>
<td>HRSG #2</td>
<td>1.48</td>
<td>12.42</td>
<td>12.42</td>
<td>0.56</td>
<td>79.58</td>
<td>4.30</td>
<td>31.83</td>
<td>94.185</td>
</tr>
<tr>
<td>Total of LA-85</td>
<td>4.18</td>
<td>27.34</td>
<td>27.34</td>
<td>1.55</td>
<td>210.53</td>
<td>5.15</td>
<td>47.59</td>
<td>182.611</td>
</tr>
<tr>
<td>Total of two units</td>
<td>8.37</td>
<td>54.69</td>
<td>54.69</td>
<td>3.10</td>
<td>421.06</td>
<td>10.30</td>
<td>95.18</td>
<td>365.222</td>
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</tbody>
</table>

#### Hazardous Air Pollutants

<table>
<thead>
<tr>
<th>Organics</th>
<th>LA-84</th>
<th>LA-85</th>
<th>Total of two units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaldehyde</td>
<td>5.69E-02</td>
<td>5.69E-02</td>
<td>5.69E-02</td>
</tr>
<tr>
<td>Acrolein</td>
<td>9.10E-03</td>
<td>9.10E-03</td>
<td>9.10E-03</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.71E-02</td>
<td>1.64E-03</td>
<td>1.88E-02</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>6.11E-04</td>
<td>6.11E-04</td>
<td>6.11E-04</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>4.55E-02</td>
<td>4.55E-02</td>
<td>4.55E-02</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>0.31</td>
<td>0.31</td>
<td>0.31</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>1.40</td>
<td>1.40</td>
<td>1.40</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.85E-03</td>
<td>1.85E-03</td>
<td>1.85E-03</td>
</tr>
<tr>
<td>Total PAH</td>
<td>3.13E-03</td>
<td>3.13E-03</td>
<td>3.13E-03</td>
</tr>
<tr>
<td>Propylene oxide</td>
<td>4.12E-02</td>
<td>4.12E-02</td>
<td>4.12E-02</td>
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<tr>
<td>Toluene</td>
<td>0.18</td>
<td>2.65E-03</td>
<td>0.18</td>
</tr>
<tr>
<td>Xylenes</td>
<td>9.10E-02</td>
<td>9.10E-03</td>
<td>9.10E-02</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metals</th>
<th>LA-84</th>
<th>LA-85</th>
<th>Total of two units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium</td>
<td>8.58E-04</td>
<td>8.58E-04</td>
<td>8.58E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.05E-03</td>
<td>1.05E-03</td>
<td>1.05E-03</td>
</tr>
<tr>
<td>Lead</td>
<td>3.90E-04</td>
<td>3.90E-04</td>
<td>3.90E-04</td>
</tr>
<tr>
<td>Manganese</td>
<td>2.96E-04</td>
<td>2.96E-04</td>
<td>2.96E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>1.84E-03</td>
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</table>

**Combined Total**

<table>
<thead>
<tr>
<th>PM</th>
<th>PM₁₀</th>
<th>direct PM₂⁵</th>
<th>SO₂</th>
<th>NOₓ</th>
<th>VOC</th>
<th>CO</th>
<th>CO₂e</th>
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<tbody>
<tr>
<td>2.24</td>
<td>2.24</td>
<td>4.47</td>
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</tbody>
</table>
## Appendix A: Emission Calculations

### Corn Receiving and Handling Operations

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Corn Receiving and Handling Summary

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Unit ID</th>
<th>Process</th>
<th>Control</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>PM10</td>
<td>PM2.5</td>
</tr>
<tr>
<td>1</td>
<td>LA-1</td>
<td>Corn Receiving</td>
<td>Baghouse (531001): particulate</td>
<td>8259</td>
<td>8259</td>
</tr>
<tr>
<td>2</td>
<td>LA-2</td>
<td>Corn Silo</td>
<td>Baghouse (531003): particulate</td>
<td>4505</td>
<td>4505</td>
</tr>
<tr>
<td>57</td>
<td>LA-78</td>
<td>12 Corn Storage Silos</td>
<td>None</td>
<td>8.05</td>
<td>8.05</td>
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</table>

**Total:** 12773 12773 2165 0 0 0 0 0 0 0 0 21 21 23 0 0 0 0

### Corn Receiving and Handling PM Emission Calculations (LA-1, LA-2, LA-78)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LA-1</td>
<td>Corn Receiving (Corn Unloading Dust Collector)</td>
<td>Baghouse (531001): particulate</td>
<td>LAC-1</td>
<td>22,000</td>
<td>0.01</td>
<td>99.9%</td>
<td>1.89</td>
<td>8.26</td>
<td>8259</td>
<td>0.1695</td>
<td>1400</td>
<td>99.0%</td>
</tr>
<tr>
<td>2</td>
<td>LA-2</td>
<td>Corn Silo (Elevator Dust Collector)</td>
<td>Baghouse (531003): particulate</td>
<td>LAC-2</td>
<td>12,000</td>
<td>0.01</td>
<td>99.9%</td>
<td>1.03</td>
<td>4.51</td>
<td>4505</td>
<td>0.1695</td>
<td>764</td>
<td>99.0%</td>
</tr>
<tr>
<td>57</td>
<td>LA-78</td>
<td>Corn Silos (12)</td>
<td>None</td>
<td>N/A</td>
<td>650</td>
<td>0.33</td>
<td>0.0%</td>
<td>1.84</td>
<td>8.05</td>
<td>8.05</td>
<td>0.1695</td>
<td>1.36</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**Methodology**

1. Design value.  
2. PM/PM10 Controlled PTE (lb/hr) = Flowrate (acfm) x Outlet Grain Loading (gr/acf) x (60 min/hr) x (1 lb/7000 gr)  
3. PM/PM10 Controlled PTE (ton/yr) = PM/PM10 Controlled PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)  
4. PM/PM10 Uncontrolled PTE (ton/yr) = PM/PM10 Controlled PTE (ton/yr) / (1 - Control Efficiency)  
5. PM2.5 : PM10 ratio is based on PM10 and PM2.5 AP-42 emission factors for Feed and Grain Elevators, Unloading (Receiving) from Straight Truck, SCC 3-02-005-51, Table 9.9.1-1 (it is assumed that all PM10 and all PM2.5 is filterable for these processes)  
6. PM2.5 : PM10 ratio = PM2.5 Uncontrolled PTE (ton/yr) x PM2.5 : PM10 ratio  
7. PM2.5 Control Efficiency is assumed to be less than for PM and PM10 (AP-42, Appendix B.2, Table B.2-3)  
8. PM2.5 Controlled PTE (ton/yr) = PM2.5 Uncontrolled PTE (ton/yr) x (1 - PM2.5 Control Efficiency)
## Appendix A: Emission Calculations
### Corn Steeping and Milling Operations

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40664-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Corn Steeping and Milling Summary

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Unit ID</th>
<th>Process</th>
<th>Control</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>PM10</td>
<td>PM2.5</td>
</tr>
<tr>
<td>40</td>
<td>LA-62A</td>
<td>South Pre-Steep Aspiration</td>
<td>None</td>
<td>--</td>
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<tr>
<td>41</td>
<td>LA-62B</td>
<td>North Pre-Steep Aspiration</td>
<td>None</td>
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<td>--</td>
</tr>
<tr>
<td>4</td>
<td>LA-70</td>
<td>Millhouse Aspiration Process</td>
<td>Scrubber (LAC-70): SO2, VOC</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
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<td>0</td>
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</table>
### South Pre-Steep Aspiration System (LA-62A) Emission Calculations

<table>
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<tr>
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<tbody>
<tr>
<td>SO₂</td>
<td>7.40E-05</td>
<td>lb/Bu</td>
<td>[3]</td>
<td>0.68</td>
<td>3.0</td>
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<tr>
<td>VOC</td>
<td>5.05E-05</td>
<td>lb/Bu</td>
<td>[3]</td>
<td>0.46</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>3.79E-07</td>
<td>lb/Bu</td>
<td>[3]</td>
<td>0.003</td>
<td>0.02</td>
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</tr>
</tbody>
</table>

**Methodology**

1. Design Value
2. Grind Rate (Bu/hr) = Grind Rate (Bu/day) / (24 hr/day)
3. Engineering Estimate/Internal Stack Testing
4. Emission Rate (lb/hr) = Emission Factor (lb/Bu) x Grind Rate (Bu/hr)
5. Emission Rate (ton/yr) = Emission Rate (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

### North Pre-Steep Aspiration System (LA-62B) Emission Calculations

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<thead>
<tr>
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<tbody>
<tr>
<td>SO₂</td>
<td>7.40E-05</td>
<td>lb/Bu</td>
<td>[3]</td>
<td>0.68</td>
<td>3.0</td>
<td></td>
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</tr>
<tr>
<td>VOC</td>
<td>5.05E-05</td>
<td>lb/Bu</td>
<td>[3]</td>
<td>0.46</td>
<td>2.0</td>
<td></td>
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</tr>
<tr>
<td>Acetaldehyde</td>
<td>3.79E-07</td>
<td>lb/Bu</td>
<td>[3]</td>
<td>0.003</td>
<td>0.02</td>
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</tbody>
</table>

**Methodology**

1. Design Value
2. Grind Rate (Bu/hr) = Grind Rate (Bu/day) / (24 hr/day)
3. Engineering Estimate/Internal Stack Testing
4. Emission Rate (lb/hr) = Emission Factor (lb/Bu) x Grind Rate (Bu/hr)
5. Emission Rate (ton/yr) = Emission Rate (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
### Millhouse Aspiration Scrubber (LA-70) Emission Calculations

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
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<tr>
<td><strong>Molecular Weights of Pollutants</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SO(_2)</td>
<td>[A]</td>
<td>64 lb/lb-mol</td>
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<tr>
<td>Ethanol</td>
<td>[B]</td>
<td>46 lb/lb-mol</td>
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<tr>
<td>Acetaldehyde</td>
<td>[C]</td>
<td>44 lb/lb-mol</td>
<td></td>
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<tr>
<td>(V = RT/P)</td>
<td>[D]</td>
<td>359.26 ft(^3)/lb-mol</td>
<td>Molar Volume at Standard Conditions (1 atm, standard temperature [M])</td>
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<td><strong>Basis Uncontrolled Emission Rates</strong></td>
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<tr>
<td>SO(_2)</td>
<td>[E]</td>
<td>96 ppmv</td>
<td>Derived from Stack Testing, as indicated in T157-27033-00033 application</td>
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<tr>
<td>Ethanol</td>
<td>[F]</td>
<td>101 ppmv</td>
<td>Derived from Stack Testing, as indicated in 157-30513-00033 application</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[G]</td>
<td>0.35 ppmv</td>
<td>Derived from Stack Testing</td>
</tr>
<tr>
<td>Scrubber Exhaust</td>
<td>[H]</td>
<td>45,680 acfm</td>
<td>Design Value (ref: SSM 157-40283-00033)</td>
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<tr>
<td>Scrubber Outlet Temperature</td>
<td>[J]</td>
<td>108 °F</td>
<td>Design Value</td>
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<tr>
<td>Standard Temperature</td>
<td>[L]</td>
<td>568 °R</td>
<td></td>
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<tr>
<td>Max Operating Hours</td>
<td>[N]</td>
<td>8760 hr/yr</td>
<td>Design Value</td>
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<tr>
<td><strong>Uncontrolled Emission Rates</strong></td>
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<td></td>
<td></td>
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<tr>
<td>SO(_2)</td>
<td>[O]</td>
<td>40.6 lb/hr</td>
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<tr>
<td>Ethanol</td>
<td>[P]</td>
<td>30.7 lb/hr</td>
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<tr>
<td>Acetaldehyde</td>
<td>[Q]</td>
<td>0.1 lb/hr</td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td>[R]</td>
<td>30.8 lb/hr</td>
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<tr>
<td><strong>Scrubber Control Efficiency</strong></td>
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<td></td>
</tr>
<tr>
<td>SO(_2)</td>
<td>[S]</td>
<td>83%</td>
<td>Design Value</td>
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<tr>
<td>Ethanol</td>
<td>[T]</td>
<td>25%</td>
<td>Design Value</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[U]</td>
<td>0%</td>
<td>Design Value</td>
</tr>
<tr>
<td><strong>Controlled Emission Rates (after scrubber)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO(_2)</td>
<td>[V]</td>
<td>6.9 lb/hr</td>
<td></td>
</tr>
<tr>
<td>[W]</td>
<td>30.2 ppm</td>
<td></td>
<td>([V] x (8760\ \text{hr/yr}) x (1\ \text{ton/2000 lb}))</td>
</tr>
<tr>
<td>[X]</td>
<td>16.3 ppm</td>
<td></td>
<td>([V] x [D] x 1,000,000 / ([A] x [I] x (60\ \text{min/hr})))</td>
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<tr>
<td>Ethanol</td>
<td>[Y]</td>
<td>23.0 lb/hr</td>
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</tr>
<tr>
<td>[Z]</td>
<td>100.9 TPY</td>
<td></td>
<td>([Y] x (8760\ \text{hr/yr}) x (1\ \text{ton/2000 lb}))</td>
</tr>
<tr>
<td>[AA]</td>
<td>75.8 ppm</td>
<td></td>
<td>([Y] x [D] x 1,000,000 / ([B] x [I] x (60\ \text{min/hr})))</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[BB]</td>
<td>0.1 lb/hr</td>
<td></td>
</tr>
<tr>
<td>[CC]</td>
<td>0.45 TPY</td>
<td></td>
<td>([BB] x (8760\ \text{hr/yr}) x (1\ \text{ton/2000 lb}))</td>
</tr>
<tr>
<td>[DD]</td>
<td>0.35 ppm</td>
<td></td>
<td>([BB] x [D] x 1,000,000 / ([C] x [I] x (60\ \text{min/hr})))</td>
</tr>
<tr>
<td>VOC</td>
<td>[EE]</td>
<td>23.13 lb/hr</td>
<td></td>
</tr>
<tr>
<td>[FF]</td>
<td>101.3 TPY</td>
<td></td>
<td>([EE] x (8760\ \text{hr/yr}) x (1\ \text{ton/2000 lb}))</td>
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### Feedhouse and Boilerhouse Criteria Pollutant Summary

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Unit ID</th>
<th>Process</th>
<th>Control</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>34</td>
<td>LA-44</td>
<td>Natural Gas/No. 2 Fuel Oil Fired</td>
<td>Zurn Boiler (227 MMBtu/hr)</td>
<td>None</td>
<td>14.5</td>
</tr>
<tr>
<td>4</td>
<td>LA-45</td>
<td>Coal Fired Riley Stoker Boiler (239 MMBtu/hr)</td>
<td>Multicone (539113) and ESP (539115); particulate, scrubber (LAC-48); SO2, HCl</td>
<td>3140.46</td>
<td>669.96</td>
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<tr>
<td>4</td>
<td>LA-46</td>
<td>Natural Gas Cleaner Brooks Boiler (49 MMBtu/hr)</td>
<td>None</td>
<td>0.4</td>
<td>1.6</td>
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<tr>
<td>4</td>
<td>LA-47</td>
<td>Natural Gas/No. 2 Fuel Oil Fired</td>
<td>Fibre Dryer (58 MMBtu/hr)</td>
<td>Integral Cyclone (534201-4 for LA-8, 534303 for LA-15, 534410 and 534412 for LA-15); particulate; Scrubber (LAC-67) shared for LA-8, LA-17A and LA-15; particulate, SO2, VOC; RTO (LAC-600 or LAC-601); VOC, CO</td>
<td>287</td>
</tr>
<tr>
<td>4</td>
<td>LA-15</td>
<td>Natural Gas Fired Gluten Dryer (52 MMBtu/hr)</td>
<td>741.2</td>
<td>674.0</td>
<td>422.2</td>
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<tr>
<td>4</td>
<td>LA-47</td>
<td>Natural Gas/No. 2 Fuel Oil Fired</td>
<td>GR Dryer (55 MMBtu/hr)</td>
<td>Integral Cyclone (535305, 535307, 535309 for LA-47 and 53408 for LA-60); particulate; Cyclone (534107 for LA-53); particulate; Scrubber (LAC-69) shared for LA-47, LA-60 and LA-53; particulate, SO2, VOC, RTO (LAC-600 or LAC-601); VOC, CO</td>
<td>240.9</td>
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<td>4</td>
<td>LA-60</td>
<td>Germ RST Pre-Dryer</td>
<td>20</td>
<td>18</td>
<td>11</td>
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<tr>
<td>4</td>
<td>LA-71</td>
<td>Feedhouse Aspiration System</td>
<td>Scrubber (LAC-71); SO2, VOC</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>4</td>
<td>LA-17B</td>
<td>Feed Cooler and Cyclone</td>
<td>Integral Cyclones/Product Collectors (534338 for LA-17B and LAC-43 for LA-43) and Scrubber (LAC-17B) shared for LA-17B and LA-43; particulate, SO2, VOC, RTO (LAC-600 or LAC-601); VOC, CO</td>
<td>19710</td>
<td>19710</td>
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<td>4</td>
<td>LA-43</td>
<td>Cracked Corn to GR Conveyor Transfer Cyclone</td>
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<td>--</td>
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<tr>
<td>4</td>
<td>LAC-600</td>
<td>RTO No. 1</td>
<td>RTO; VOC, CO</td>
<td>0.13</td>
<td>0.52</td>
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<td>4</td>
<td>LAC-601</td>
<td>RTO No. 2</td>
<td>RTO; VOC, CO</td>
<td>0.13</td>
<td>0.52</td>
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<tr>
<td>4</td>
<td>LAC-602</td>
<td>RTO No. 3</td>
<td>RTO; VOC, CO</td>
<td>0.13</td>
<td>0.52</td>
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</table>

Total: 24155.0 21572.1 4371.8 8773.8 949.8 930.5 3718.6 311.3 318.4 249.8 1359.9 949.8 157.5 691.2

For units capable of combusting more than one fuel, PTE is based on the worst case for each pollutant.
**Appendix A: Emission Calculations**

**Feedhouse and Boilerhouse Summary**

- **Company Name:** Tate & Lyle Lafayette South
- **Source Address:** 3300 US 52 South, Lafayette, IN 47905
- **Significant Source Modification No.:** 157-41643-00033
- **Part 70 Permit No.:** 157-40694-00033
- **Reviewer:** Doug Logan
- **Date:** 10/7/2019

### Feedhouse Apiration Scrubber (LA-71) Calculations

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<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
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<tr>
<td><strong>Molecular Weights of Pollutants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[A]</td>
<td>64 lb/lb-mol</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>[B]</td>
<td>46 lb/lb-mol</td>
<td></td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[C]</td>
<td>44 lb/lb-mol</td>
<td></td>
</tr>
<tr>
<td><strong>V = RT/P</strong></td>
<td>[D]</td>
<td>359.26 ft³/lb-mol</td>
<td>Molar Volume at Standard Conditions (1 atm, standard temperature [M])</td>
</tr>
<tr>
<td><strong>Base Uncontrolled Emission Rates</strong></td>
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<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[E]</td>
<td>90 ppm</td>
<td>Derived from internal stack testing</td>
</tr>
<tr>
<td>Ethanol</td>
<td>[F]</td>
<td>110 ppm</td>
<td>Derived from internal stack testing</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[G]</td>
<td>0.35 ppm</td>
<td>Derived from internal stack testing</td>
</tr>
<tr>
<td>Scrubber Exhaust Flow Rate</td>
<td>[H]</td>
<td>45,170 acfm</td>
<td>Design Value</td>
</tr>
<tr>
<td>Scrubber Outlet Temperature</td>
<td>[J]</td>
<td>108 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td><strong>Standard Temperature</strong></td>
<td>[K]</td>
<td>568 °R</td>
<td>= [J] + 460 °F</td>
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<tr>
<td><strong>Uncontrolled Emission Rates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[N]</td>
<td>165.6 ton/yr</td>
<td>= [E] x [I] x [A] x (60 min/hr) x (8760 hr/yr) x (1 ton/2000 lb) / (1,000,000 x [D])</td>
</tr>
<tr>
<td>Ethanol</td>
<td>[O]</td>
<td>144.3 ton/yr</td>
<td>= [F] x [I] x [B] x (60 min/hr) x (8760 hr/yr) x (1 ton/2000 lb) / (1,000,000 x [D])</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[P]</td>
<td>0.4 ton/yr</td>
<td>= [G] x [I] x [C] x (60 min/hr) x (8760 hr/yr) x (1 ton/2000 lb) / (1,000,000 x [D])</td>
</tr>
<tr>
<td><strong>VOC</strong></td>
<td>[Q]</td>
<td>144.7 ton/yr</td>
<td>= [O] + [P]</td>
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<tr>
<td><strong>Scrubber Control Efficiency</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[R]</td>
<td>83%</td>
<td>Design Value</td>
</tr>
<tr>
<td>Ethanol</td>
<td>[S]</td>
<td>25%</td>
<td>Design Value</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[T]</td>
<td>0%</td>
<td>Design Value</td>
</tr>
<tr>
<td><strong>Controlled Emission Rates (after scrubber)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[U]</td>
<td>28.2 ton/yr</td>
<td>= [N] x (1 - [R])</td>
</tr>
<tr>
<td>Ethanol</td>
<td>[V]</td>
<td>108.2 ton/yr</td>
<td>= [O] x (1 - [S])</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>[W]</td>
<td>0.44 ton/yr</td>
<td>= [T] x (1 - [T])</td>
</tr>
<tr>
<td><strong>VOC</strong></td>
<td>[X]</td>
<td>108.7 ton/yr</td>
<td>= [V] + [W]</td>
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</tbody>
</table>
### Feed Cooler/Cracked Corn Transfer Scrubber (LA-17B (controls LA-17B and LA-43)) Particulate Emissions

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</tr>
</thead>
<tbody>
<tr>
<td>Scrubber (controlling LA-17B and LA-43)</td>
<td>534342 (LA-17B)</td>
<td>35000</td>
<td>0.015</td>
<td>99.9%</td>
<td>4.5</td>
<td>19.71</td>
<td>19710</td>
<td>0.1706</td>
<td>3362</td>
<td>99.0%</td>
</tr>
</tbody>
</table>

**Methodology**

1. Design value.
2. PM/PM10 Controlled PTE (lb/hr) = Flowrate (acfm) x Outlet Grain Loading (gr/acf) x (60 min/hr) x (1 lb/7000 gr)
3. PM/PM10 Controlled PTE (ton/yr) = PM/PM10 Controlled PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
4. PM2.5 : PM10 Ratio is based on PM10 and PM2.5 AP-42 emission factors for Feed and Grain Elevators, Grain Handling SCC 3-02-005-30, Table 9.9.1-1 (it is assumed that all PM10 and all PM2.5 is filterable for these processes)
5. PM2.5 : PM10 ratio is based on PM10 and PM2.5 AP-42 emission factors for Feed and Grain Elevators, Grain Handling SCC 3-02-005-30, Table 9.9.1-1 (it is assumed that all PM10 and all PM2.5 is filterable for these processes)
6. PM2.5 Uncontrolled PTE (ton/yr) = PM/PM10 Uncontrolled PTE (ton/yr) x PM2.5 : PM10 ratio
7. PM2.5 Control Efficiency is assumed to be less than for PM and PM10 (AP-42, Appendix B.2, Table B.2-3)
8. PM2.5 Controlled PTE (ton/yr) = PM2.5 Uncontrolled PTE (ton/yr) x (1 - PM2.5 Control Efficiency)
## Appendix A: Emission Calculations
### Feedhouse and Boilerhouse Combustion Emissions

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Feedhouse and Boilerhouse Combustion Summary

<table>
<thead>
<tr>
<th>Unit</th>
<th>Worst Case Combustion PTE (ton/yr)</th>
<th>PM2.5</th>
<th>PM10</th>
<th>PM10*</th>
<th>SO2</th>
<th>NOx**</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zurn Boiler (LA-44) - Natural Gas/No. 2 FO</td>
<td>14.46</td>
<td>16.63</td>
<td>11.21</td>
<td>313.40</td>
<td>272.93</td>
<td>5.36</td>
<td>81.88</td>
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<tr>
<td>Riley Stoker Boiler (LA-45) - Coal - Uncontrolled</td>
<td>3.140.40</td>
<td>699.38</td>
<td>205.75</td>
<td>6,274.26</td>
<td>523.41</td>
<td>2.38</td>
<td>237.91</td>
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<tr>
<td>Riley Stoker Boiler (LA-45) - Coal - Controlled</td>
<td>31.40</td>
<td>23.87</td>
<td>24.15</td>
<td>627.43</td>
<td>523.41</td>
<td>2.38</td>
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<td>3.10</td>
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<td>5.77</td>
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For units that are capable of burning more than one fuel, the PTE listed above is the worst case for each pollutant.
Feedhouse and Boilerhouse: Natural Gas Combustion

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2.

PM emission factor is filterable PM only. PM10 emission factor is filterable PM10 and condensable PM combined. PM2.5 emission factor is filterable PM2.5 and condensable PM combined.

**Emission Factors for NOx for < 100 MMBtu/hr: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Emission Factors for NOx for > 100 MMBtu/hr: Uncontrolled (Pre-NSPS) = 280, Uncontrolled (Post-NSPS) = 190, Controlled (Low NOx burners) = 140, Controlled (FGR) = 100

***Emission Factors for N2O: Uncontrolled = 2.2, Low NOx Burner = 0.64

Metal HAPs Organic HAPs Combined HAPs

<table>
<thead>
<tr>
<th>Metal HAPs</th>
<th>Organic HAPs</th>
<th>Combined HAPs</th>
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<td>Polycyclic amines</td>
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<td>Cadmium</td>
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<td>Cobalt</td>
<td>Cis-chlordane</td>
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<td>Lead</td>
<td>Dibenzofuran</td>
<td>Polychlorinated naphthalenes</td>
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<tr>
<td>Mercury</td>
<td>Decabromdiphenyl ether</td>
<td>Polychlorinated phenyls</td>
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### Feedhouse and Boilerhouse Combustion Emissions

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-0033  
**Part 70 Permit No.:** 157-40694-0033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

#### Feedhouse and Boilerhouse: No. 2 Fuel Oil Combustion

<table>
<thead>
<tr>
<th>Emission Factor in lb/kgal (for heat input capacity &lt; 100 MMBtu/hr)</th>
<th>Emission Factor in lb/kgal (for heat input capacity &gt; 100 MMBtu/hr)</th>
<th>Heating Value (MMBtu/kgal)</th>
<th>Potential Throughput (kgal/yr)</th>
<th>Potential Emissions (tons/yr)</th>
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<tbody>
<tr>
<td>PM</td>
<td>PM10</td>
<td>PM2.5</td>
<td>SO2</td>
<td>NOx</td>
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<td>2.3</td>
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<td>45</td>
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<td>3283.4</td>
<td>3.70</td>
<td>4.25</td>
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</table>

Emission Factors: AP-42, Tables 1.3-1, 1.3-2, 1.3-3, 1.3-6, 1.3-8, 1.3-12, industrial boilers  
*PM is filterable PM only. PM10 is filterable PM10 and condensable PM combined. PM2.5 is filterable PM2.5 and condensable PM combined.*

---

**Methodology**

Heating Value of No. 2 Fuel Oil is assumed to be 137.5 MMBtu/kgal  
Potential Throughput (kgal/yr) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 kgal/137.5 MMBtu  
Potential Emission (tons/yr) = Throughput (kgal/yr) * Emission Factor (lb/kgal) * (1 ton/2,000 lb)  
GHG Mass-Based (ton/yr) = CO2 (ton/yr) + N2O (ton/yr) + CH4 (ton/yr)  
# Feedhouse and Boilerhouse Combustion Emissions

- **Company Name:** Tate & Lyle Lafayette South
- **Source Address:** 3300 US 52 South, Lafayette, IN 47905
- **Significant Source Modification No.:** 157-41643-00033
- **Part 70 Permit No.:** 157-40694-00033
- **Reviewer:** Doug Logan
- **Date:** 10/7/2019

### Feedhouse and Boilerhouse: Coal Combustion

#### Criteria Pollutants

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<th>PM10</th>
<th>PM2.5</th>
<th>PM Condensable</th>
<th>Total PM10</th>
<th>Total PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
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<tbody>
<tr>
<td>Emission Factor in lb/ton</td>
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<td>13.2</td>
<td>4.8</td>
<td>131.9</td>
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<td>ESP Control Efficiency</td>
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<td>98%</td>
<td>95%</td>
<td>30%</td>
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<tr>
<td>Scrubber Control Efficiency</td>
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</table>

#### Emissions Heat Input

- **Riley Stoker Boiler (LA-45) (only coal)**
  - **Uncontrolled:**
    - Heat Input (MMBtu/hr): 239.00
    - Coal Heating Value (Btu/lb): 11,000.00
    - Coal Usage (ton/yr): 95,165.45
    - Potential Emissions (tons/yr): 3,140.46
  - **Controlled:**
    - Heat Input (MMBtu/hr): 31.40
    - Coal Heating Value (Btu/lb): 6,280.00
    - Coal Usage (ton/yr): 523.41
    - Potential Emissions (tons/yr): 237.91

**Methodology**

1. **Coal Usage (ton/yr)** = Heat Input (MMBtu/hr) x (8760 hr/yr) x (1 ton/2000 lb) x (1,000,000 Btu/MMBtu) / Coal Heating Value (Btu/lb)
2. **Emissions (ton/yr)** = Coal Usage (ton/yr) x Emission Factor (lb/ton) x (1 ton/2000 lb)
3. **OR Emissions (ton/yr)** = Heat Input (MMBtu/hr) x Emission Factor (lb/MMBtu) x (1 ton/2000 lb) x (8760 hr/yr)

**GHGs:**

- **GHG Mass-Based (ton/yr)** = CO2 (ton/yr) + N2O (ton/yr) + CH4 (ton/yr)
- **CO2e (tons/yr)** based on 11/29/2013 federal GWPs = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298)

### HAPs Calculations for Riley Stoker Boiler (LA-45)

<table>
<thead>
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<th>Pollutant</th>
<th>EF (lb/ton)</th>
<th>Reference</th>
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<tbody>
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<td>5.70E-04</td>
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<td>Benzyl chloride</td>
<td>7.00E-04</td>
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<td>Bis(2-ethylhexyl)phthalate</td>
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<td>Bromoform</td>
<td>3.90E-05</td>
<td>[2]</td>
</tr>
<tr>
<td>Cadmium</td>
<td>5.10E-05</td>
<td>[3]</td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>1.30E-04</td>
<td>[2]</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>2.20E-05</td>
<td>[2]</td>
</tr>
<tr>
<td>Chloroform</td>
<td>5.90E-05</td>
<td>[2]</td>
</tr>
<tr>
<td>Chromium</td>
<td>2.60E-04</td>
<td>[3]</td>
</tr>
<tr>
<td>Chromium (VI)</td>
<td>7.90E-05</td>
<td>[3]</td>
</tr>
<tr>
<td>Cobalt</td>
<td>1.00E-04</td>
<td>[3]</td>
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<td>Cyanide</td>
<td>2.50E-03</td>
<td>[2]</td>
</tr>
<tr>
<td>Dimethyl sulfate</td>
<td>4.80E-05</td>
<td>[2]</td>
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<tr>
<td>Ethyl Benzene</td>
<td>9.40E-05</td>
<td>[2]</td>
</tr>
<tr>
<td>Ethyl Chloride</td>
<td>4.20E-05</td>
<td>[2]</td>
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<tr>
<td>Ethylene dichloride</td>
<td>4.00E-05</td>
<td>[2]</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.40E-04</td>
<td>[2]</td>
</tr>
</tbody>
</table>

**Total HAPs:** 6.48E+01

**Methodology**

1. **EF (lb/ton) = Heat Input (MMBtu/hr) / Heating Value (Btu/lb) x (1 ton/2000 lb) x (1,000,000 Btu/MMBtu) / EF (lb/ton)**

---

**Notes:**

- **PM** is filterable PM only.  PM10 is filterable PM10 and condensable PM combined.  PM2.5 is filterable PM2.5 and condensable PM combined.
- **SO2** for Spreader Stoker, Bituminous firing = 38S, where S = 3.47% sulfur content.

<table>
<thead>
<tr>
<th>Unit: Emissions</th>
<th>Emissions Type</th>
<th>Emissions</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>Acetaldehyde</th>
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<tbody>
<tr>
<td>LA-8 and LA-17A: Uncontrolled PTE (ton/yr)</td>
<td>Process Emissions</td>
<td>287.15</td>
<td>261.12</td>
<td>163.57</td>
<td>16.46</td>
<td>-</td>
<td>231.22</td>
<td>1673.16</td>
<td>0.452</td>
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<td>LA-8 and LA-17A: Uncontrolled PTE (ton/yr)</td>
<td>LA-8 Combustion Emissions</td>
<td>28.67</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>LA-8 and LA-17A: Uncontrolled PTE (ton/yr)</td>
<td>Total</td>
<td>287.75</td>
<td>261.12</td>
<td>163.57</td>
<td>16.46</td>
<td>65.62</td>
<td>231.22</td>
<td>1673.16</td>
<td>0.45</td>
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<td>LA-8 and LA-17A: Controlled PTE (ton/yr)</td>
<td>Process Emissions</td>
<td>54.56</td>
<td>56.81</td>
<td>36.57</td>
<td>1.65</td>
<td>11.56</td>
<td>167.32</td>
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<td>LA-8 and LA-17A: Controlled PTE (ton/yr)</td>
<td>LA-8 Combustion Emissions</td>
<td>36.95</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>LA-8 and LA-17A: Controlled PTE (ton/yr)</td>
<td>Total</td>
<td>54.56</td>
<td>56.81</td>
<td>36.57</td>
<td>1.65</td>
<td>65.62</td>
<td>11.56</td>
<td>167.32</td>
<td>0.02</td>
</tr>
<tr>
<td>LA-15: Uncontrolled PTE (ton/yr)</td>
<td>Process Emissions</td>
<td>741.17</td>
<td>673.96</td>
<td>422.19</td>
<td>1631.20</td>
<td>-</td>
<td>81.63</td>
<td>43.80</td>
<td>0.48</td>
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<tr>
<td>LA-15: Uncontrolled PTE (ton/yr)</td>
<td>LA-15 Combustion Emissions</td>
<td>11.16</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LA-15: Uncontrolled PTE (ton/yr)</td>
<td>Total</td>
<td>741.17</td>
<td>673.96</td>
<td>422.19</td>
<td>1631.20</td>
<td>11.16</td>
<td>81.63</td>
<td>43.80</td>
<td>0.48</td>
</tr>
<tr>
<td>LA-15: Controlled PTE (ton/yr)</td>
<td>Process Emissions</td>
<td>140.82</td>
<td>146.63</td>
<td>102.13</td>
<td>163.12</td>
<td>-</td>
<td>4.08</td>
<td>4.38</td>
<td>0.024</td>
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<tr>
<td>LA-15: Controlled PTE (ton/yr)</td>
<td>LA-15 Combustion Emissions</td>
<td>11.16</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>LA-15: Controlled PTE (ton/yr)</td>
<td>Total</td>
<td>140.82</td>
<td>146.63</td>
<td>102.13</td>
<td>163.12</td>
<td>11.16</td>
<td>4.08</td>
<td>4.38</td>
<td>0.02</td>
</tr>
<tr>
<td>LA-47 and LA-60: Uncontrolled PTE (ton/yr)</td>
<td>Process Emissions</td>
<td>48.76</td>
<td>47.66</td>
<td>33.20</td>
<td>4.17</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LA-47 and LA-60: Uncontrolled PTE (ton/yr)</td>
<td>LA-47 Combustion Emissions</td>
<td>35.04</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LA-47 and LA-60: Uncontrolled PTE (ton/yr)</td>
<td>Total</td>
<td>48.76</td>
<td>47.66</td>
<td>33.20</td>
<td>4.17</td>
<td>35.04</td>
<td>43.73</td>
<td>164.68</td>
<td>0.44</td>
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<td>LA-47 and LA-60: Controlled PTE (ton/yr)</td>
<td>Process Emissions</td>
<td>3.80</td>
<td>3.98</td>
<td>2.76</td>
<td>21.73</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LA-47 and LA-60: Controlled PTE (ton/yr)</td>
<td>LA-47 Combustion Emissions</td>
<td>35.04</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>LA-47 and LA-60: Controlled PTE (ton/yr)</td>
<td>Total</td>
<td>45.76</td>
<td>47.66</td>
<td>33.20</td>
<td>4.17</td>
<td>35.04</td>
<td>21.74</td>
<td>164.68</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Shaded cells: The process emissions include the combustion emissions.
## Appendix A: Emission Calculations

**Feedhouse and Boilermaker Dryer Process and Combustion Emissions**

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019


**Process Emissions:** Fiber Dryer (LA-8) and DSLC Dryer (LA-17A)

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grind Rate during Test</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO(_2)/PM</td>
<td>[A]</td>
<td>Bu/day</td>
<td>Average grind rate during test (4/2013)</td>
</tr>
<tr>
<td>VOC</td>
<td>[B]</td>
<td>Bu/day</td>
<td>Average grind rate during test (4/17/2008)</td>
</tr>
<tr>
<td>CO</td>
<td>[C]</td>
<td>Bu/day</td>
<td>Based on testing and material balance</td>
</tr>
</tbody>
</table>

| Controlled Emission Rates During Testing | | | |
| SO\(_2\) | [D] | lb/hr | Average of 3 test runs (4/15/2008) for SO\(_2\)/PM, 4/17/2008 for VOC |
| PM | [E] | lb/hr | Average of 3 test runs (4/2013) |
| VOC | [F] | lb/hr | |
| CO | [G] | lb/hr | Based on testing and material balance |

| Scrubber Control Efficiencies (LAC-67) | | | |
| SO\(_2\) | [H] | 90% | Engineering assumption based on test data |
| PM | [I] | 81% | Engineering assumption based on test data |
| VOC | [J] | 45.6% | Based on 4/17/2008 test data |
| CO | [K] | 0.0% | No Control |

| Uncontrolled Emission Rates During Testing | | | |
| SO\(_2\) | [L] | lb/hr | |
| PM | [M] | lb/hr | |
| VOC | [N] | lb/hr | |
| CO | [O] | lb/hr | |

| Uncontrolled Potential to Emit | | | |
| Maximum Grind Rate | [T] | Bu/day | Design Value |
| SO\(_2\) | [U] | 16.46 TPY | |
| PM | [V] | 287.15 TPY | |
| PM2.5-Filterable | [W] | 226.82 TPY | |
| PM2.5-Condensable | [X] | 129.31 TPY | |
| PM10-Total | [Z] | 261.12 TPY | |
| VOC | [BB] | 231.22 TPY | |
| CO | [CC] | 1673.16 TPY | |

| Scrubber (LAC-67) Control Efficiencies | | | |
| SO\(_2\) | [DD] | 90% | Engineering assumption based on test data |
| PM/PM10-Filterable | [EE] | 81% | Engineering assumption based on test data |
| PM2.5-Filterable | [FF] | 80% | Engineering Estimate |
| PM2.5-Condensable | [GG] | 60% | Engineering Estimate |
| VOC | [HH] | 45.6% | Based on April 2008 test data |

| RTO (LAC-600, LAC-601, and LA-602) Control Efficiencies | | | |
| VOC | [II] | 95.0% | Based on Consent Order Requirement - this is the overall required control of VOC |
| CO | [JJ] | 90.0% | Based on Consent Order Requirement |

| Controlled Potential to Emit - After Scrubber and RTO | | | |
| SO\(_2\) | [KK] | TPY | |
| PM | [LL] | TPY | |
| PM10-Total | [MM] | TPY | |
| PM2.5-Total | [NN] | TPY | |
| VOC | [OO] | TPY | |
| CO | [PP] | TPY | |
## Appendix A: Emission Calculations

### Feedhouse and Boilerhouse Dryer Process and Combustion Emissions

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Process Emissions: Gluten Meal Dryer (LA-15)

#### Data Element | Data Designation | Value | Reference/Calculation
--- | --- | --- | ---
**Grind Rate during Test** | PM | Bu/day | Average grind rate during test (4/15/2008)
| SO₂ | Bu/day | Average grind rate during test (4/2013)
| VOC | Bu/day | Average grind rate during test (4/16/2008)

#### Controlled Emission Rates During Testing

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>lb/hr</td>
<td>109.4</td>
<td>Average of 3 test runs (4/2013 for SO₂) testing included LA-15 process emissions and LA-45 exhaust gas emissions</td>
</tr>
<tr>
<td>PM</td>
<td>lb/hr</td>
<td>38.8</td>
<td>Average of 3 test runs (4/15/2008 for PM) testing included LA-15 process emissions and LA-45 exhaust gas emissions</td>
</tr>
<tr>
<td>VOC</td>
<td>lb/hr</td>
<td>15.9</td>
<td>Average of 3 test runs (4/16/2008 for VOC) testing included LA-15 process emissions and LA-45 exhaust gas emissions</td>
</tr>
</tbody>
</table>

#### Scrubber Control Efficiencies (LAC-68)

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>%</td>
<td>85</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM</td>
<td>%</td>
<td>81</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>VOC</td>
<td>%</td>
<td>15.7</td>
<td>Engineering assumption based on test data</td>
</tr>
</tbody>
</table>

#### Uncontrolled Emission Rates During Testing

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>lb/hr</td>
<td>729.5</td>
<td>(C) x (1 - (F))</td>
</tr>
<tr>
<td>PM</td>
<td>lb/hr</td>
<td>193.7</td>
<td>(D) x (1 - (G))</td>
</tr>
<tr>
<td>VOC</td>
<td>lb/hr</td>
<td>18.9</td>
<td>(E) x (1 - (H))</td>
</tr>
</tbody>
</table>

#### Boiler Exhaust Emissions During Testing

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>lb/hr</td>
<td>519.83</td>
<td>2.29 lb SO₂/MMBtu @ 227 MMBtu/hr</td>
</tr>
<tr>
<td>PM</td>
<td>lb/hr</td>
<td>45.4</td>
<td>0.2 lb PM/MMBtu @ 227 MMBtu/hr</td>
</tr>
<tr>
<td>VOC</td>
<td>lb/hr</td>
<td>1.09</td>
<td>0.1 lb VOC/ton coal @ 10.864 ton coal/hr</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>%</td>
<td>0.0</td>
<td>No Control</td>
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</table>

#### Boiler Exhaust Emissions to Gluten Dryer During Testing

<table>
<thead>
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<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>lb/hr</td>
<td>363.88</td>
<td>(L) x (O)</td>
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<tr>
<td>PM</td>
<td>lb/hr</td>
<td>31.76</td>
<td>(M) x (O)</td>
</tr>
<tr>
<td>VOC</td>
<td>lb/hr</td>
<td>18.10</td>
<td>(N) x (O)</td>
</tr>
</tbody>
</table>

#### Uncontrolled Process Emissions (LA-15) During Testing

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
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</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>TPY</td>
<td>365.65</td>
<td>(S) x (24 hr/day) / (B)</td>
</tr>
<tr>
<td>PM</td>
<td>TPY</td>
<td>161.90</td>
<td>(U) x (24 hr/day) / (A)</td>
</tr>
<tr>
<td>VOC</td>
<td>TPY</td>
<td>18.10</td>
<td>(W) x (24 hr/day) / (B*)</td>
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</table>

#### Uncontrolled Potential to Emit

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Grind Rate</td>
<td>Bu/day</td>
<td>1631.20</td>
<td>([T] x (Y) x (365 day/yr) x (1 ton / 2000 lb))</td>
</tr>
<tr>
<td>PM</td>
<td>TPY</td>
<td>741.17</td>
<td>([V] x (365 day/yr) x (1 ton / 2000 lb))</td>
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<tr>
<td>PM10-Filterable</td>
<td>TPY</td>
<td>585.52</td>
<td>([C] x (0.79 ton PM10-Fil/ton PM) - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68)</td>
</tr>
<tr>
<td>PM2.5-Filterable</td>
<td>TPY</td>
<td>335.75</td>
<td>([A] x (0.57 ton PM2.5-Fil/ton PM10-Fil) - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68)</td>
</tr>
<tr>
<td>PM-Condensable</td>
<td>TPY</td>
<td>88.44</td>
<td>([B] x (0.265 ton PM-Con/ton PM2.5-Fil) - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/68)</td>
</tr>
<tr>
<td>PM10-Total</td>
<td>TPY</td>
<td>673.96</td>
<td>([B] + [D])</td>
</tr>
<tr>
<td>PM2.5-Total</td>
<td>TPY</td>
<td>422.19</td>
<td>([C] + [D])</td>
</tr>
<tr>
<td>CO</td>
<td>TPY</td>
<td>81.83</td>
<td>([A] x (365 day/yr) x (1 ton / 2000 lb))</td>
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<tr>
<td>CO</td>
<td>TPY</td>
<td>43.80</td>
<td>Based on testing and material balance</td>
</tr>
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</table>

#### Scrubber (LAC-67) Control Efficiencies

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>%</td>
<td>90</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM10-Filterable</td>
<td>%</td>
<td>81</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM2.5-Filterable</td>
<td>%</td>
<td>80</td>
<td>Engineering Estimate</td>
</tr>
<tr>
<td>PM-Condensable</td>
<td>%</td>
<td>80</td>
<td>Engineering Estimate</td>
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#### RTO (LAC-600, LAC-601, and LA-602) Control Efficiencies

<table>
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<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>%</td>
<td>95.0</td>
<td>Based on Consent Order Requirement - this is the overall required control of VOC</td>
</tr>
<tr>
<td>CO</td>
<td>%</td>
<td>90.0</td>
<td>Based on Consent Order Requirement</td>
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</table>

## Controlled Potential to Emit - After Scrubber and RTO

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>TPY</td>
<td>163.12</td>
<td>([Z] x (T - (I1))</td>
</tr>
<tr>
<td>PM</td>
<td>TPY</td>
<td>140.82</td>
<td>([Q] x (1 - (J1))</td>
</tr>
<tr>
<td>PM10-Total</td>
<td>TPY</td>
<td>146.43</td>
<td>([BB] x (1 - (J1)) + ([DD] x (1 - (L1))</td>
</tr>
<tr>
<td>PM2.5-Total</td>
<td>TPY</td>
<td>102.13</td>
<td>([K] x (1 - (K1)) + ([MM] x (1 - (L1))</td>
</tr>
<tr>
<td>VOC</td>
<td>TPY</td>
<td>4.08</td>
<td>([G] x (1 - (N}))</td>
</tr>
<tr>
<td>CO</td>
<td>TPY</td>
<td>4.38</td>
<td>([H] x (1 - (O)))</td>
</tr>
</tbody>
</table>

---

**Appendix A: Emission Calculations**

Feedhouse and Boilerhouse Dryer Process and Combustion Emissions

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019


#### Process Emissions: GR Dryer (LA-47) and Germ Pre-Dryer (LA-60)

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basis Data for LA-47 and LA-60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grind Rate during Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM [A]</td>
<td>Bu/day</td>
<td>Average grind rate during test (4/15/2008)</td>
<td></td>
</tr>
<tr>
<td>SO2/VOC [B]</td>
<td>Bu/day</td>
<td>Average grind rate during test (4/2013)</td>
<td></td>
</tr>
<tr>
<td>CO [C]</td>
<td>Bu/day</td>
<td>Based on test data and material balance</td>
<td></td>
</tr>
</tbody>
</table>

#### Controlled Emission Rates During Testing

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 [D]</td>
<td>0.935 lb/hr</td>
<td>Average of 3 test runs (4/2013 for SO2)</td>
</tr>
<tr>
<td>PM [E]</td>
<td>10.0 lb/hr</td>
<td>Average of 3 test runs (4/15/2008 for PM)</td>
</tr>
<tr>
<td>VOC [F]</td>
<td>36.15 lb/hr</td>
<td>Average of 3 test runs (4/2013 for VOC)</td>
</tr>
<tr>
<td>CO [G]</td>
<td>376.0 lb/hr</td>
<td>Test data and material balance</td>
</tr>
</tbody>
</table>

#### Scrubber Control Efficiencies (LAC-69)

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 [H]</td>
<td>85%</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM [I]</td>
<td>81%</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>VOC [J]</td>
<td>62.9%</td>
<td>Based on 4/2013 test data</td>
</tr>
<tr>
<td>CO [K]</td>
<td>0.0%</td>
<td>No Control</td>
</tr>
</tbody>
</table>

#### Uncontrolled Emission Rates During Testing

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 [L]</td>
<td>6.2 lb/hr</td>
<td>[D] x (1 - [H])</td>
</tr>
<tr>
<td>PM [M]</td>
<td>52.6 lb/hr</td>
<td>[E] x (1 - [I])</td>
</tr>
<tr>
<td>VOC [N]</td>
<td>97.4 lb/hr</td>
<td>[F] x (1 - [J])</td>
</tr>
<tr>
<td>CO [O]</td>
<td>376.0 lb/hr</td>
<td>[G] x (1 - [K])</td>
</tr>
</tbody>
</table>

#### Uncontrolled Potential to Emit

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Grind Rate [T]</td>
<td>Bu/day</td>
<td>Design Value</td>
</tr>
<tr>
<td>SO2 [U]</td>
<td>27.82 TPY</td>
<td>[M] x (T x (365 day/yr) x (1 ton / 2000 lb))</td>
</tr>
<tr>
<td>PM [V]</td>
<td>240.94 TPY</td>
<td>[O] x (T x (365 day/yr) x (1 ton / 2000 lb))</td>
</tr>
<tr>
<td>PM10-Filterable [W]</td>
<td>190.34 TPY</td>
<td>[V] x (0.79 ton PM10-Fil/ton PM) - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68</td>
</tr>
<tr>
<td>PM2.5-Filterable [X]</td>
<td>108.49 TPY</td>
<td>[W] x (0.57 ton PM2.5-Fil/ton PM10-Fil) - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68</td>
</tr>
<tr>
<td>PM-Condensable [Y]</td>
<td>28.75 TPY</td>
<td>[X] x (0.265 ton PM-Con/ton PM2.5-Fil) - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/68</td>
</tr>
<tr>
<td>PM10-Total [Z]</td>
<td>219.09 TPY</td>
<td>[Y] x [Y]</td>
</tr>
<tr>
<td>PM2.5-Total [AA]</td>
<td>137.24 TPY</td>
<td>[X] x [Y]</td>
</tr>
<tr>
<td>VOC [BB]</td>
<td>434.71 TPY</td>
<td>[U] x (T x (365 day/yr) x (1 ton / 2000 lb))</td>
</tr>
<tr>
<td>CO [CC]</td>
<td>1646.88 TPY</td>
<td>[V] x (T x (365 day/yr) x (1 ton / 2000 lb))</td>
</tr>
</tbody>
</table>

#### Scrubber (LAC-69) Control Efficiencies

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 [DD]</td>
<td>85%</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM/PM10-Filterable [EE]</td>
<td>81%</td>
<td>Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM2.5-Filterable [FF]</td>
<td>80%</td>
<td>Engineering Estimate</td>
</tr>
<tr>
<td>PM-Condensable [GG]</td>
<td>60%</td>
<td>Engineering Estimate</td>
</tr>
<tr>
<td>VOC [HH]</td>
<td>62.9%</td>
<td>Based on 4/2013 test data</td>
</tr>
</tbody>
</table>

#### RTO (LAC-600, LAC-601, and LA-602) Control Efficiencies

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC [II]</td>
<td>95.0%</td>
<td>Based on Consent Order Requirement - this is the overall required control of VOC</td>
</tr>
<tr>
<td>CO [JJ]</td>
<td>90.0%</td>
<td>Based on Consent Order Requirement</td>
</tr>
</tbody>
</table>

#### Controlled Potential to Emit - After Scrubber and RTO

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 [KK]</td>
<td>4.17 TPY</td>
<td>[I] x (1 - [DD])</td>
</tr>
<tr>
<td>PM [LL]</td>
<td>45.78 TPY</td>
<td>[J] x (1 - [EE])</td>
</tr>
<tr>
<td>PM10-Total [MM]</td>
<td>47.86 TPY</td>
<td>[K] x (1 - [EE]) + [L] x (1 - [GG])</td>
</tr>
<tr>
<td>PM2.5-Total [NN]</td>
<td>33.20 TPY</td>
<td>[L] x (1 - [FF]) + [M] x (1 - [GG])</td>
</tr>
<tr>
<td>VOC [OO]</td>
<td>21.74 TPY</td>
<td>[M] x (1 - [HH])</td>
</tr>
<tr>
<td>CO [PP]</td>
<td>164.69 TPY</td>
<td>[N] x (1 - [JJ])</td>
</tr>
</tbody>
</table>
## Appendix A: Emission Calculations

### Feedhouse and Boilerhouse Dryer Process and Combustion Emissions

#### Company Name:
Tate & Lyle Lafayette South

#### Source Address:
3300 US 52 South, Lafayette, IN 47905

#### Significant Source Modification No.:
157-41643-00033

#### Part 70 Permit No.:
157-40694-00033

#### Reviewer:
Doug Logan

#### Date:
10/7/2019

---


#### Process Emissions: Germ RST Dryer (LA-53)

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basis Data for LA-53</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grind Rate during Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[A] Bu/day</td>
<td>Operating data during Test 2</td>
<td></td>
</tr>
<tr>
<td>VOC/PM</td>
<td>[B] Bu/day</td>
<td>Operating data during Test 3</td>
<td></td>
</tr>
<tr>
<td><strong>Uncontrolled Emission Rates During Testing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[C] 32.17 lb/hr</td>
<td>Test 2 result (highest value of three tests)</td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>[D] 4.07 lb/hr</td>
<td>Test 3 result</td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td>[E] 5.72 lb/hr</td>
<td>Test 3 result (highest value of three tests)</td>
<td></td>
</tr>
<tr>
<td><strong>Uncontrolled Potential to Emit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Grind Rate</td>
<td>[F] Bu/day</td>
<td>Design Value</td>
<td></td>
</tr>
<tr>
<td>SO₂</td>
<td>[G] 144.86 TPY</td>
<td>$I \times [D] \times (365 \text{ day/yr}) \times (1 \text{ ton} / 2000 \text{ lb})$</td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>[H] 20.01 TPY</td>
<td>$I \times [F] \times (365 \text{ day/yr}) \times (1 \text{ ton} / 2000 \text{ lb})$</td>
<td></td>
</tr>
<tr>
<td>PM10-Filterable</td>
<td>[I] 15.81 TPY</td>
<td>$[K] \times (0.79 \text{ ton PM10-Fil/ ton PM})$ - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68</td>
<td></td>
</tr>
<tr>
<td>PM2.5-Filterable</td>
<td>[J] 9.01 TPY</td>
<td>$[L] \times (0.57 \text{ ton PM2.5-Fil/ ton PM10-Fil})$ - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68</td>
<td></td>
</tr>
<tr>
<td>PM-Condensable</td>
<td>[K] 2.39 TPY</td>
<td>$[M] \times (0.265 \text{ ton PM-Cond/ ton PM2.5-Fil})$ - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/68</td>
<td></td>
</tr>
<tr>
<td>PM10-Total</td>
<td>[L] 18.20 TPY</td>
<td>$[I] + [N]$</td>
<td></td>
</tr>
<tr>
<td>PM2.5-Total</td>
<td>[M] 11.40 TPY</td>
<td>$[J] + [N]$</td>
<td></td>
</tr>
<tr>
<td>PM-Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM10-Total</td>
<td>[N] 28.12 TPY</td>
<td>$[I] \times (365 \text{ day/yr}) \times (1 \text{ ton} / 2000 \text{ lb})$</td>
<td></td>
</tr>
<tr>
<td>PM2.5-Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td>[O] 5.72 TPY</td>
<td>$[M] \times (0.79 \text{ ton PM10-Fil/ ton PM})$ - Based on 2005 National Emission Inventory Data for SCCs 3-02-007-66/67/68</td>
<td></td>
</tr>
</tbody>
</table>

#### Scrubber (LAC-69) Control Efficiencies - LA-53 will be routed through LAC-69 (no scrubber currently)

<table>
<thead>
<tr>
<th>Data</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>85% Engineering assumption based on test data</td>
</tr>
<tr>
<td>PMPM10-Filterable</td>
<td>81% Engineering assumption based on test data</td>
</tr>
<tr>
<td>PM2.5-Filterable</td>
<td>80% Engineering Estimate</td>
</tr>
<tr>
<td>PMCondensable</td>
<td>60% Engineering Estimate</td>
</tr>
<tr>
<td>VOC</td>
<td>62.9% Based on April 2008 test data</td>
</tr>
</tbody>
</table>

#### RTO (LAC-600, LAC-601, and LA-602) Control Efficiencies

<table>
<thead>
<tr>
<th>Data</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>$[J] \times (1 - [R])$</td>
</tr>
<tr>
<td>PM</td>
<td>$[M] \times (1 - [T])$</td>
</tr>
<tr>
<td>PM10-Total</td>
<td>$[M] \times (1 - [T]) + [N] \times (1 - [U])$</td>
</tr>
<tr>
<td>PM2.5-Total</td>
<td>$[J] \times (1 - [R]) + [N] \times (1 - [U])$</td>
</tr>
<tr>
<td>VOC</td>
<td>95.5% Based on Consent Order Requirement - this is the overall required control of VOC.</td>
</tr>
</tbody>
</table>

#### Controlled Potential to Emit - After Scrubber and RTO

<table>
<thead>
<tr>
<th>Data</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>$[J] \times (1 - [R])$</td>
</tr>
<tr>
<td>PM</td>
<td>$[M] \times (1 - [T])$</td>
</tr>
<tr>
<td>PM10-Total</td>
<td>$[M] \times (1 - [T]) + [N] \times (1 - [U])$</td>
</tr>
<tr>
<td>PM2.5-Total</td>
<td>$[J] \times (1 - [R]) + [N] \times (1 - [U])$</td>
</tr>
<tr>
<td>VOC</td>
<td>$[J] \times (1 - [R])$</td>
</tr>
</tbody>
</table>
Appendix A: Emission Calculations

Feedhouse and Boilerhouse Dryer Process and Combustion Emissions

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019


<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Molecular Weights of Pollutants</strong></td>
<td>Acetaldehyde</td>
<td>44 lb/lb-mol</td>
<td>Molecular Weight at Standard Conditions (1 atm, standard temperature [J, P, V, BB])</td>
</tr>
<tr>
<td></td>
<td>V̂</td>
<td>359.26 ft³/lb-mol</td>
<td>Molar Volume at Standard Conditions (1 atm, standard temperature [J, P, V, BB])</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>0.25 ppmv</td>
<td>Derived from Decatur Test Data</td>
</tr>
<tr>
<td><strong>Grind Basis</strong></td>
<td>D</td>
<td>Bu/day</td>
<td>Derived from Decatur Test Data</td>
</tr>
<tr>
<td><strong>Parameters for LA-15 Emissions</strong></td>
<td>Scrubber Exhaust Flow Rate</td>
<td>74,000 acfm</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Scrubber Outlet Temperature</td>
<td>135 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Standard Temperature</td>
<td>32 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Parameters for LA-15 Emissions</strong></td>
<td>Scrubber Exhaust Flow Rate</td>
<td>70,500 acfm</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Scrubber Outlet Temperature</td>
<td>142 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Standard Temperature</td>
<td>32 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Parameters for LA-47 and LA-60 Emissions</strong></td>
<td>Scrubber Exhaust Flow Rate</td>
<td>70,500 acfm</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Scrubber Outlet Temperature</td>
<td>154 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Standard Temperature</td>
<td>32 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Parameters for LA-53 Emissions</strong></td>
<td>Scrubber Exhaust Flow Rate</td>
<td>44,000 acfm</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>56,482 scfm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>154 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Basis Data - Acetaldehyde</strong></td>
<td>LA-15</td>
<td>0.112 lb/hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LA-8/LA-17A</td>
<td>0.106 lb/hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LA-47/LA-60</td>
<td>0.104 lb/hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LA-53</td>
<td>0.065 lb/hr</td>
<td></td>
</tr>
<tr>
<td><strong>Uncontrolled Emission Rate - Acetaldehyde</strong></td>
<td>Maximum Grind Rate</td>
<td>0.480 TPY</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>95% Busday</td>
<td></td>
</tr>
<tr>
<td><strong>Controlled Emission Rate - Acetaldehyde</strong></td>
<td>RTO Control</td>
<td>0.024 TPY</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.023 TPY</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.022 TPY</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.014 TPY</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix A: Emission Calculations

**Feedhouse and Boilerhouse Dryer Process and Combustion Emissions**

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

---


**Equivalent Pound Per Hour SO2 Limit for Dryer Emissions (LA-8, LA-17A, LA-15, LA-47, and LA-60)**

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Molecular Weights of Pollutants</strong></td>
<td>SO(_2)</td>
<td>[A] 64 lb/lb-mol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V = RTP</td>
<td>[B] 359.26 ft(^3)/lb-mol</td>
<td>Molar Volume at Standard Conditions (1 atm, standard temperature [H])</td>
</tr>
<tr>
<td><strong>Parameters</strong></td>
<td>Scrubber Exhaust</td>
<td>[C] 143,932 acfm</td>
<td>Design Value for LAC-67 and LAC-69 combined</td>
</tr>
<tr>
<td></td>
<td>Flow Rate</td>
<td>[D] 116,471 scfm</td>
<td>x [H] / [F]</td>
</tr>
<tr>
<td></td>
<td>Scrubber Outlet</td>
<td>[E] 148 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td></td>
<td>Temperature</td>
<td>[F] 608 °R</td>
<td>= [E] + 460</td>
</tr>
<tr>
<td></td>
<td>Standard Temperature</td>
<td>[G] 32 °F</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[H] 492 °R</td>
<td>= [G] + 460</td>
<td></td>
</tr>
<tr>
<td><strong>Limited Emission Rates</strong></td>
<td>SO(_2)</td>
<td>[I] 187 ppm</td>
<td>Limit</td>
</tr>
<tr>
<td></td>
<td>[J] 232.8 lb/hr</td>
<td>= [I] x [D] x ([A] / [B]) x (60 min/hr) x (1/1,000,000)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[K] 1919.7 ton/yr</td>
<td>= [J] x (8760 hr/yr) x (1 ton/2000 lb)</td>
<td></td>
</tr>
</tbody>
</table>

Pursuant to CP No. 157-3581-00033 and SSM No. 157-11449-00033, the concentration of sulfur dioxide in the exhaust from scrubbers LAC-67 (controlling emissions from LA-8, LA-15, LA-17A) and LAC-69 (controlling emissions from LA-47 and LA-60) shall not exceed 187 ppm. The above calculations determine the equivalent pound per hour and ton per year SO\(_2\) emissions for 187 ppm.
### Feed Products Storage and Loadout - Criteria Pollutants

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Unit ID</th>
<th>Process</th>
<th>Control</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>3</td>
<td>LA-22</td>
<td>Cracked Corn Bin</td>
<td>Bin Vent Filter/Baghouse (LAC-22): particulate</td>
<td>526</td>
<td>526</td>
</tr>
<tr>
<td>10</td>
<td>LA-21</td>
<td>Gluten Airveyor System</td>
<td>Baghouse (LAC-21): particulate</td>
<td>4505</td>
<td>4505</td>
</tr>
<tr>
<td>11</td>
<td>LA-18</td>
<td>Germ Cooler Airveyor/Germ Loadout Bin</td>
<td>Bin Vent Filter/Baghouse (LAC-18): particulate</td>
<td>1126</td>
<td>1126</td>
</tr>
<tr>
<td>9</td>
<td>LA-21B</td>
<td>Gluten Loadout Bin</td>
<td>Bin Vent Filter/Baghouse (LAC-21B): particulate</td>
<td>1126</td>
<td>1126</td>
</tr>
<tr>
<td>58</td>
<td>LA-79</td>
<td>Pellet Cooler #1</td>
<td>Cyclone (LAC-79): particulate</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>59</td>
<td>LA-80</td>
<td>Pellet Cooler #4</td>
<td>Cyclone (LAC-80): particulate</td>
<td>150</td>
<td>150</td>
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<tr>
<td>60</td>
<td>LA-81</td>
<td>Pellet Cooler #5</td>
<td>Cyclone (LAC-81): particulate</td>
<td>150</td>
<td>150</td>
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<tr>
<td>43</td>
<td>LA-64</td>
<td>Pellet Storage Bin</td>
<td>Integral Bin Vent Filter/Baghouse* (LAC-64): particulate</td>
<td>3.45</td>
<td>3.45</td>
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<tr>
<td>54</td>
<td>LA-77</td>
<td>Hammermill Aspiration System</td>
<td>Scrubber (LAC-77): particulate</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>62</td>
<td>LA-83</td>
<td>Feed Dump Aspiration System</td>
<td>Baghouse (LAC-83): particulate</td>
<td>282</td>
<td>282</td>
</tr>
</tbody>
</table>

Total: 8299 8299 1423 0 0 0 0 0 0 54 54 56 0 0 0 0

* The Baghouse has been determined to be integral to the process; therefore, emissions are considered after control.
### Feed Products Storage and Loadout PM Emission Calculations

<table>
<thead>
<tr>
<th></th>
<th></th>
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<td>3</td>
<td>LA-22</td>
<td>Cracked Corn Bin</td>
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<td>LAC-22</td>
<td>1,400</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.53</td>
<td>526</td>
<td>0.17460</td>
<td>91.8</td>
<td>99.0%</td>
<td>0.92</td>
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<tr>
<td>10</td>
<td>LA-21</td>
<td>Gluten Airveyor System</td>
<td>Baghouse</td>
<td>LAC-21</td>
<td>12,000</td>
<td>0.01</td>
<td>99.9%</td>
<td>4.51</td>
<td>4505</td>
<td>0.17059</td>
<td>768.5</td>
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<td>7.69</td>
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<td>11</td>
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<td>Germ Cooler Airveyor/Germ Loadout Bin</td>
<td>Bin Vent Filter/Baghouse</td>
<td>LAC-18</td>
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<td>1.13</td>
<td>1126</td>
<td>0.17059</td>
<td>192.1</td>
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<td>1.92</td>
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<td>Gluten Loadout Bin</td>
<td>Bin Vent Filter/Baghouse</td>
<td>LAC-21B</td>
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<td>0.01</td>
<td>99.9%</td>
<td>1.13</td>
<td>1126</td>
<td>0.17059</td>
<td>192.1</td>
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<td>1.92</td>
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<tr>
<td>58</td>
<td>LA-79</td>
<td>Pellet Cooler #1</td>
<td>Cyclone</td>
<td>LAC-79</td>
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<td>0.01</td>
<td>95.0%</td>
<td>7.51</td>
<td>150</td>
<td>0.17059</td>
<td>25.6</td>
<td>70.0%</td>
<td>7.69</td>
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<td>42</td>
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<td>Combo Pellet Cooler</td>
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<td>150</td>
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<td>25.6</td>
<td>70.0%</td>
<td>7.69</td>
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<td>Cyclone</td>
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<td>0.01</td>
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<td>7.51</td>
<td>150</td>
<td>0.17059</td>
<td>25.6</td>
<td>70.0%</td>
<td>7.69</td>
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<td>43</td>
<td>LA-64</td>
<td>Pellet Storage Bin</td>
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<td>LAC-64</td>
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<td>3454</td>
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<td>54</td>
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<td>Hammermill Aspiration System</td>
<td>Scrubber</td>
<td>LAC-77</td>
<td>3,000</td>
<td>0.015</td>
<td>90.0%</td>
<td>1.69</td>
<td>17</td>
<td>0.17059</td>
<td>2.9</td>
<td>90.0%</td>
<td>0.29</td>
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<td>62</td>
<td>LA-83</td>
<td>Feed Dump Aspiration System</td>
<td>Baghouse</td>
<td>LAC-83</td>
<td>15,000</td>
<td>0.01</td>
<td>98.0%</td>
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<td>48.0</td>
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</table>

**Methodology**

1. Design value.
2. PM/PM10 Controlled PTE (lb/hr) = Flowrate (acfm) \times Outlet Grain Loading (gr/acf) \times (60 \text{ min/hr}) \times (1 \text{ lb/7000 gr})
3. PM/PM10 Controlled PTE (ton/yr) = PM/PM10 Controlled PTE (lb/hr) \times (8760 \text{ h/yr}) \times (1 \text{ ton/2000 lb})
4. PM/PM10 Uncontrolled PTE (ton/yr) = PM/PM10 Controlled PTE (ton/yr) \times (1 - Control Efficiency)
5. PM2.5 : PM10 ratio is based on PM10 and PM2.5 AP-42 emission factors for Feed and Grain Elevators, Grain Handling (SCC 3-02-005-30) and Storage Bin (SCC 3-02-005-40), Table 9.9.1-1

(since it is assumed that all PM10 and all PM2.5 is filterable for these processes)
6. PM2.5 Uncontrolled PTE (ton/yr) = PM/PM10 Uncontrolled PTE (ton/yr) \times \text{PM2.5 : PM10 ratio}
7. PM2.5 Control Efficiency is assumed to be less than for PM and PM10 (AP-42, Appendix B.2, Table B.2-3)
8. PM2.5 Controlled PTE (ton/yr) = PM2.5 Uncontrolled PTE (ton/yr) \times (1 - \text{PM2.5 Control Efficiency})
# Appendix A: Emission Calculations

## Refinery Area

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Refinery Area Summary

<table>
<thead>
<tr>
<th>SV ID</th>
<th>Unit ID</th>
<th>Process</th>
<th>Control</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
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<tbody>
<tr>
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<td></td>
<td></td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>46</td>
<td>LA-73</td>
<td>Mud Centrifuges Vent #1</td>
<td>None</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>47</td>
<td>LA-73</td>
<td>Mud Centrifuges Vent #2</td>
<td>None</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>53</td>
<td>LA-74</td>
<td>Mud Centrifuges Vent #3</td>
<td>None</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>46</td>
<td>LA-75</td>
<td>Jets Foam Trap</td>
<td>None</td>
<td>--</td>
<td>--</td>
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<tr>
<td>19</td>
<td>LA-29</td>
<td>Soda Ash Unloading and Storage</td>
<td>Scrubber (LAC-29): particulate</td>
<td>901.2</td>
<td>901.2</td>
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<tr>
<td>32</td>
<td>LA-41</td>
<td>2 Hydrochloric Acid Storage Tanks</td>
<td>Scrubber (LAC-41): HCl</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>50</td>
<td>LA-76</td>
<td>Hydrochloric Acid Supply Head Tank</td>
<td>Scrubber (LAC-76): HCl</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>51</td>
<td>LA-85A</td>
<td>Celion IX Drain Tank</td>
<td>Scrubber (LAC-85A): HCl</td>
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<tr>
<td>20</td>
<td>LA-31</td>
<td>Filter Aid Rail/Truck Unloading</td>
<td>Baghouse LAC-31</td>
<td>187.7</td>
<td>187.7</td>
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<tr>
<td>21</td>
<td>LA-32</td>
<td>Filter Aid Transfer System</td>
<td>Bin Vent Filter/Baghouse (LAC-32): particulate</td>
<td>120.1</td>
<td>120.1</td>
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<td>49</td>
<td>LA-61</td>
<td>MEA Absorption System</td>
<td>Scrubber (LAC-61): SO2</td>
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<td>33</td>
<td>LA-28</td>
<td>Natural Gas No. 2 Fuel Oil Fired Carbon Reactivation Furnace (22 MMBtu/hr) [1]</td>
<td>Scrubber (LAC-28): particulate</td>
<td>62.6</td>
<td>62.6</td>
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<td>35</td>
<td>LA-51</td>
<td>Krystal Dryer/Cooler No. 1 Acid Bagger Aspiration System</td>
<td>Integral Cyclones (S36055) and Scrubber (LAC-51): particulate</td>
<td>360.4</td>
<td>360.4</td>
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<tr>
<td>35A</td>
<td>LA-51A</td>
<td>Krystal Dryer/Cooler No. 2 Product recovery cyclones and scrubber (LAC-51A): particulate</td>
<td>126.6</td>
<td>126.6</td>
<td>55.4</td>
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<td>35B</td>
<td>LA-51B</td>
<td>Krystal Transportation Aspiration System</td>
<td>Scrubber (LAC-51B): particulate</td>
<td>120.1</td>
<td>120.1</td>
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<td>52</td>
<td>LA-52</td>
<td>Spent Filter Aid Aspiration System</td>
<td>Baghouse (LAC-52): particulate</td>
<td>46.93</td>
<td>46.93</td>
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</table>

**Notes:**  
[1] PTE is based on the worst case for each pollutant for combustion of natural gas or No. 2 fuel oil.
### Refinery Area PM Emission Calculations

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<tbody>
<tr>
<td>19</td>
<td>LA-29</td>
<td>Soda Ash Unloading and Storage</td>
<td>Scrubber</td>
<td>LAC-29</td>
<td>1,335</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.11</td>
<td>0.50</td>
<td>501.3</td>
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<td>21</td>
<td>LA-32</td>
<td>Filter Aid Transfer</td>
<td>Baghouse</td>
<td>LAC-32</td>
<td>320</td>
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<td>99.9%</td>
<td>0.03</td>
<td>0.12</td>
<td>120.1</td>
<td>0.17059</td>
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<tr>
<td>20</td>
<td>LA-31</td>
<td>Filter Aid Rail/Truck</td>
<td>Baghouse</td>
<td>LAC-31</td>
<td>500</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.04</td>
<td>0.19</td>
<td>187.7</td>
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<td>LA-52</td>
<td>Spent Filter Aid</td>
<td>Baghouse</td>
<td>LAC-52</td>
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<td>0.005</td>
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<td>0.21</td>
<td>0.94</td>
<td>46.0</td>
<td>0.17059</td>
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### Mud Centrifuges Vents and Jets Foam Trap (LA-72 - LA-75) Calculations

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<th>S/V</th>
<th>Emission Unit ID</th>
<th>Emission Unit Description</th>
<th>Grind Rate (bu/day) [1]</th>
<th>Emission Factor (lb/bu) [2]</th>
<th>PTE (ton/yr)[3]</th>
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<tr>
<td>46</td>
<td>LA-72</td>
<td>Mud Centrifuges Vent #1</td>
<td>220000</td>
<td>8.18E-04</td>
<td>4.30E-06</td>
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<tr>
<td>47</td>
<td>LA-73</td>
<td>Mud Centrifuges Vent #2</td>
<td>220000</td>
<td>8.18E-04</td>
<td>4.30E-06</td>
</tr>
<tr>
<td>53</td>
<td>LA-74</td>
<td>Mud Centrifuges Vent #3</td>
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<td>4.30E-04</td>
<td>2.18E-06</td>
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<tr>
<td>48</td>
<td>LA-75</td>
<td>Jets Foam Trap</td>
<td>220000</td>
<td>1.83E-02</td>
<td>7.53E-04</td>
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</table>

### Methodology

1. Design Value
2. Emission Factors are engineering estimates provided by the Permittee
3. PTE (ton/yr) = Grind Rate (bu/day) x Emission Factor (lb/bu) x (365 days/yr) x (1 ton/2000 lb)
## Tanks (LA-41, LA-76, LA-65A) Calculations

<table>
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<tr>
<th>SV ID</th>
<th>Emission Unit ID</th>
<th>Emission Unit Description</th>
<th>Control Device Type</th>
<th>Exit Gas Flowrate (scfm)</th>
<th>HCl Outlet Concentration (ppmv)</th>
<th>Scrubber Control Efficiency (%)</th>
<th>Controlled PTE HCl (ton/yr)</th>
<th>Uncontrolled PTE HCl (ton/yr)</th>
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</thead>
<tbody>
<tr>
<td>32</td>
<td>LA-41</td>
<td>2 Hydrochloric Acid Storage Tanks</td>
<td>Scrubber (LAC-42): HCl</td>
<td>1800</td>
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<td>LA-76</td>
<td>Hydrochloric Acid Supply Head Tank</td>
<td>Scrubber (LAC-76): HCl</td>
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<td>99.99%</td>
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<td>Cation IX Drain Tank</td>
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<td>12</td>
<td>99.99%</td>
<td>0.18</td>
<td>1790</td>
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</table>

### Methodology

1. Provided by the Permittee
2. Controlled PTE HCl (ton/yr) = HCl Outlet Concentration (ppmv) x Exit Gas Flowrate (scfm) x (1/R) x (P/T) x MW x (60 min/hr) x (8760 hr/yr) x (1 ton/2000 lb) x (1/1,000,000)

\[ R = \text{Universal Gas Constant} = 0.7302 \text{ cf-atm/lbmol-°R} \]
\[ P = \text{Normal Pressure} = 1 \text{ atm} \]
\[ T = \text{Normal Temperature} = 527.67 \text{ °R} \]
\[ \text{MW} = \text{Molecular Weight of HCl} = 36.45 \text{ lb/lbmol} \]
3. Uncontrolled PTE HCl (ton/yr) = Controlled PTE HCl (ton/yr) / (1 - Control Efficiency)
Appendix A: Emission Calculations
Refinery Area

Company Name: Tate & Lyle Lafayette South
Source Address: 3300 US 52 South, Lafayette, IN 47905
Significant Source Modification No.: 157-41643-00033
Part 70 Permit No.: 157-40984-00033
Reviewer: Doug Logan
Date: 10/7/2019

MBS Aspiration System (LA-61) Calculations

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<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
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</tr>
<tr>
<td></td>
<td>V = RT/P</td>
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<td>Molar Volume at Standard Conditions (1 atm, standard temperature [H])</td>
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<tr>
<td>Parameters</td>
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<td>1,114 scfm</td>
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<td>Design Value</td>
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<td>Standard Temperature</td>
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<td>492 °R</td>
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<td>Uncontrolled Emission Rates</td>
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<td>Engineering Estimate/Internal Test Data</td>
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<td></td>
<td>6.0 lb/hr</td>
<td>= [I] x [D] x (1/1,000,000) x (60 min/hr) x (1 ton/2000 lb)</td>
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<tr>
<td></td>
<td>Scrubber Control Efficiency</td>
<td>SO₂</td>
<td>83%</td>
</tr>
<tr>
<td>Controlled Emission Rates (after scrubber)</td>
<td>SO₂</td>
<td>1.0 lb/hr</td>
<td>= [J] x (1 - [L])</td>
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<tr>
<td></td>
<td></td>
<td>4.4 ton/yr</td>
<td>= [J] x (8760 hr/yr) x (1 ton/2000 lb)</td>
</tr>
</tbody>
</table>
Appendix A: Emission Calculations

Refinery Area

Company Name: Tate & Lyle Lafayette South
Source Address: 3300 US 52 South, Lafayette, IN 47905
Significant Source Modification No.: 157-41643-00033
Part 70 Permit No.: 157-40694-00033
Reviewer: Doug Logan
Date: 10/7/2019

Carbon Reactivation Furnace (LA-28) Calculations

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Data Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
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<tbody>
<tr>
<td>Molecular Weights of Pollutants</td>
<td>CO</td>
<td>28 lb/lbmol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V = RT/P</td>
<td>355.2 ft³/lbmol</td>
<td>Molar Volume at Standard Conditions (1 atm, standard temperature [°R])</td>
</tr>
<tr>
<td>Parameters</td>
<td>Scrubber Exhaust</td>
<td>11,808 stdm</td>
<td>= [D] x [F]/[H]</td>
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<tr>
<td></td>
<td>Flow Rate</td>
<td>15,000 stdm</td>
<td>Design Value</td>
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<tr>
<td></td>
<td>Temperature</td>
<td>625 °F</td>
<td>= [E] + 460</td>
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<tr>
<td></td>
<td>Standard Temperature</td>
<td>32 °F</td>
<td>= [G] + 460</td>
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<tr>
<td></td>
<td>Furnace Heat Input</td>
<td>22 MMBluh</td>
<td>Design Value</td>
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<tr>
<td>Natural Gas Heating Value</td>
<td>.</td>
<td>1020 Btu/cf</td>
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<tr>
<td>No. 2 FO Heating Value</td>
<td>.</td>
<td>137 MMBluh/gal</td>
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<td>Control Efficiency (PM/PM10)</td>
<td>.</td>
<td>91 %</td>
<td>Design Value</td>
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<tr>
<td>PM/PM10 (Controlled)</td>
<td>.</td>
<td>0.01 gr/acf</td>
<td>Engineering Estimate (Scrubber Outlet)</td>
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<tr>
<td>CO (Uncontrolled)</td>
<td>.</td>
<td>355 ppmv</td>
<td>Engineering Estimate (Outlet)</td>
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<tr>
<td>Natural Gas Emission Factors (Uncontrolled)</td>
<td>NOX</td>
<td>100 lb/MMCF</td>
<td>AP-42, Table 1.4-1, small boiler, uncontrolled (SCC# 1-01-006-02, 1-02-006-02, 1-03-006-02/03)</td>
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<tr>
<td></td>
<td>PM/PM10</td>
<td>0.11 gr/acf</td>
<td>= [M] / (1 - [L])</td>
</tr>
<tr>
<td></td>
<td>SO2</td>
<td>0.6 lb/MMCF</td>
<td>AP-42, Table 1.4-2</td>
</tr>
<tr>
<td></td>
<td>VOC</td>
<td>5.6 lb/MMCF</td>
<td>AP-42, Table 1.4-2</td>
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<tr>
<td></td>
<td>CO</td>
<td>0.030037 lb/acf</td>
<td>= [N] x ([A] / [B])</td>
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<tr>
<td>No. 2 Fuel Oil Emission Factors</td>
<td>NOX</td>
<td>20 lb/kgal</td>
<td>AP-42, Table 1.3-1, boilers ≤ 100 MMBtu/hr (SCC# 1-02-005-02, 1-03-005-02, 1-03-005-02/03)</td>
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<tr>
<td></td>
<td>PM/PM10</td>
<td>0.11 gr/acf</td>
<td>= [M] / (1 - [L])</td>
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<tr>
<td></td>
<td>SO2</td>
<td>71 lb/kgal</td>
<td>AP-42, Table 1.3-1, boilers ≤ 100 MMBtu/hr (SCC# 1-02-005-02, 1-03-005-02, 1-03-005-02/03) = 1428, S=0.5% sulfur</td>
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<tr>
<td></td>
<td>VOC</td>
<td>0.2 lb/kgal</td>
<td>AP-42, Table 1.3-1, industrial boilers (SCC# 1-02-005-02/03)</td>
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<tr>
<td></td>
<td>CO</td>
<td>5 lb/kgal</td>
<td>AP-42, Table 1.3-1, boilers ≤ 100 MMBtu/hr (SCC# 1-02-005-02, 1-03-005-02, 1-03-005-02/03)</td>
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<tr>
<td>Emissions from Combusting Natural Gas (Uncontrolled)</td>
<td>NOX</td>
<td>9.4 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td></td>
<td>PM/PM10</td>
<td>62.8 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td></td>
<td>SO2</td>
<td>0.5 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td></td>
<td>VOC</td>
<td>5.8 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td>Emissions from Combusting No. 2 Fuel Oil (Uncontrolled)</td>
<td>NOX</td>
<td>14.1 ton/yr</td>
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<td>PM/PM10</td>
<td>62.8 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td></td>
<td>SO2</td>
<td>48.0 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td></td>
<td>VOC</td>
<td>5.6 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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<tr>
<td>Controlled Emission Rates after scrubber - natural fuel</td>
<td>PM/PM10</td>
<td>3.5 ton/yr</td>
<td>= ([I] / [J]) x ([D] x (8760 hr/yr)) x (1 ton/2000 lb)</td>
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### HAPs Calculations for Carbon Reactivation Furnace (LA-28)

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<tbody>
<tr>
<td>Arsenic</td>
<td>4</td>
<td>3.85E-04</td>
<td>2.00E-04</td>
<td>(1) Emission Factors: AP-42, Table 1.4-2, 1.4-3, 1.4-4.</td>
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<tr>
<td>Beryllium</td>
<td>3</td>
<td>2.89E-04</td>
<td>1.20E-05</td>
<td>Heat Input (MMBtu/hr) x EF (lb/MMCF) x (1 ton/2000 lb) / Heating Value (MMBtu/MMCF)</td>
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<tr>
<td>Cadmium</td>
<td>3</td>
<td>2.89E-04</td>
<td>1.10E-03</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Chromium</td>
<td>3</td>
<td>2.89E-04</td>
<td>1.10E-03</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Cobalt</td>
<td>0</td>
<td>5.78E-04</td>
<td>3.85E-04</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
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<tr>
<td>Lead</td>
<td>6</td>
<td>5.78E-04</td>
<td>3.85E-04</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
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<tr>
<td>Manganese</td>
<td>6</td>
<td>5.78E-04</td>
<td>3.85E-04</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Mercury</td>
<td>3</td>
<td>2.89E-04</td>
<td>2.60E-05</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Nickel</td>
<td>3</td>
<td>2.89E-04</td>
<td>2.10E-03</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Selenium</td>
<td>15</td>
<td>1.45E-03</td>
<td>2.48E-05</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Benzene</td>
<td>2</td>
<td>2.10E-03</td>
<td>1.98E-04</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>1.00E-03</td>
<td>1.13E-04</td>
<td>1.13E-04</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
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<tr>
<td>Formaldehyde</td>
<td>0.061</td>
<td>4.29E-02</td>
<td>7.50E-02</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
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<tr>
<td>Hexane</td>
<td>6.10E-04</td>
<td>5.76E-02</td>
<td>5.76E-02</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.30E-04</td>
<td>1.70E-01</td>
<td>1.70E-01</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.20E-03</td>
<td>3.21E-04</td>
<td>3.21E-04</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
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<tr>
<td>POM</td>
<td>0.0033</td>
<td>2.32E-03</td>
<td>8.33E-06</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
<tr>
<td>Total</td>
<td>4.99E-02</td>
<td>1.78E-01</td>
<td>1.78E-01</td>
<td>= Heat Input (MMBtu/hr) x EF (lb/MMCF) / No. 2 Fuel Oil Heating Value (MMBtu/kgal) x (1 ton/2000 lb)</td>
</tr>
</tbody>
</table>
## Carbon Reactivation Furnace (LA-28B) Calculations

<table>
<thead>
<tr>
<th>Item Designation</th>
<th>Value</th>
<th>Reference/Calculation</th>
</tr>
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<tbody>
<tr>
<td><strong>Parameters</strong></td>
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<tr>
<td>Maximum Carbon Output Rate (dry basis)</td>
<td>[A] 2500 lb/hr</td>
<td>Design Rate</td>
</tr>
<tr>
<td>Maximum Spent Carbon Usage (50% moisture)</td>
<td>[B] 6000 lb/hr</td>
<td>Design Rate</td>
</tr>
<tr>
<td>Higher Heating Value of Natural Gas</td>
<td>[C] 1020 Btu/scf</td>
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</tr>
<tr>
<td>Maximum Natural Gas Heat Input Rate</td>
<td>[D] 15 MMBtu/hr</td>
<td>Design Rate</td>
</tr>
<tr>
<td>Exhaust Temperature</td>
<td>[E] 150 °F</td>
<td>Design Value</td>
</tr>
<tr>
<td>Exhaust Rate</td>
<td>[G] 52 °F</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[H] 492 °R = (G + 460)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[I] 6165 acfm</td>
<td>Design Rate</td>
</tr>
<tr>
<td></td>
<td>[J] 5250 scfm = [I] x [H] / [F]</td>
<td></td>
</tr>
<tr>
<td><strong>Controlled Emission Rates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM/PM10/PM2.5</td>
<td>[K] 1 lb/hr</td>
<td>Engineering estimate based on Decatur Plant data</td>
</tr>
<tr>
<td></td>
<td>[L] 4.36 TPY = [K] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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</tr>
<tr>
<td>SO2</td>
<td>[M] 3 lb/hr</td>
<td>Engineering estimate based on Decatur Plant data</td>
</tr>
<tr>
<td></td>
<td>[N] 13.14 TPY = [M] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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<tr>
<td>CO</td>
<td>[O] 5 lb/hr</td>
<td>Engineering Estimate</td>
</tr>
<tr>
<td></td>
<td>[P] 21.9 TPY = [O] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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</tr>
<tr>
<td>VOC (as propane)</td>
<td>[Q] 1 lb/hr</td>
<td>Engineering estimate based on Decatur Plant data</td>
</tr>
<tr>
<td></td>
<td>[R] 4.38 TPY = [Q] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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</tr>
<tr>
<td>NOx (as NO2)</td>
<td>[S] 1 lb/hr</td>
<td>Engineering Estimate (see Note 1)</td>
</tr>
<tr>
<td></td>
<td>[T] 13.14 TPY = [S] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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<tr>
<td><strong>Control Equipment Efficiencies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wet Scrubber</td>
<td>PM/PM10/PM2.5</td>
<td>[V] 95.3%</td>
</tr>
<tr>
<td></td>
<td>SO2</td>
<td>[W] 90.0%</td>
</tr>
<tr>
<td>Afterburner</td>
<td>CO</td>
<td>[X] 90.0%</td>
</tr>
<tr>
<td></td>
<td>VOC (as propane)</td>
<td>[Y] 90.0%</td>
</tr>
<tr>
<td><strong>Uncontrolled Emission Rates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM/PM10/PM2.5</td>
<td>[Z] 27.03 lb/hr</td>
<td>= [S] / (1 - [V])</td>
</tr>
<tr>
<td></td>
<td>[AA] 118.38 TPY = [Z] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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</tr>
<tr>
<td>SO2</td>
<td>[BB] 6.00 lb/hr</td>
<td>= [S] / (1 - [W])</td>
</tr>
<tr>
<td></td>
<td>[CC] 26.28 TPY = [BB] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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</tr>
<tr>
<td>CO</td>
<td>[DD] 35.00 lb/hr</td>
<td>= [O] / (1 - [X])</td>
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<td></td>
<td>[EE] 270.00 TPY = [DD] x (8760 hr/yr) x (1 ton/2000 lb)</td>
<td></td>
</tr>
<tr>
<td>VOC (as propane)</td>
<td>[FF] 10.00 lb/hr</td>
<td>= [Q] / (1 - [Y])</td>
</tr>
<tr>
<td></td>
<td>[GG] 43.80 TPY = [GG] x (8760 hr/yr) x (1 ton/2000 lb)</td>
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</tbody>
</table>

### Notes:
1. Emission factor for NOx is equivalent to 0.2 lb/MMBtu for a total natural gas firing rate of 15 MMBtu/hr. Emissions are a combination of NOx emitted from natural gas combustion and nitrogen in activated carbon adsorbate (i.e., protein).
2. Because of the configuration of the carbon regeneration furnace and zero hearth afterburner, the efficiency of the afterburner in oxidizing CO and VOC cannot be effectively measured. However, the efficiency is expected to be approximately 90%.
### HAPs Calculations for Carbon Reactivation Furnace (LA-28B)

<table>
<thead>
<tr>
<th>HAP</th>
<th>Emission Factor (lb/MMCF)</th>
<th>PTE (ton/yr) [2]</th>
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<tbody>
<tr>
<td>Arsenic</td>
<td>2.00E-04</td>
<td>1.29E-05</td>
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<tr>
<td>Barium</td>
<td>1.30E-05</td>
<td>7.73E-05</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.10E-03</td>
<td>7.73E-05</td>
</tr>
<tr>
<td>Chromium</td>
<td>9.60E-05</td>
<td>5.40E-06</td>
</tr>
<tr>
<td>Cobalt</td>
<td>5.00E-03</td>
<td>3.20E-04</td>
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<tr>
<td>Manganese</td>
<td>3.80E-04</td>
<td>2.40E-05</td>
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<tr>
<td>Mercury</td>
<td>2.80E-04</td>
<td>1.50E-05</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.10E-03</td>
<td>1.20E-05</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.40E-05</td>
<td>1.40E-06</td>
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<tr>
<td>Sinefene</td>
<td>1.60E-03</td>
<td>9.00E-06</td>
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<td>Sulfur</td>
<td>1.20E-04</td>
<td>7.00E-06</td>
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<td>Formaldehyde</td>
<td>5.00E-03</td>
<td>3.00E-05</td>
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<tr>
<td>Sulfate</td>
<td>3.80E-04</td>
<td>2.40E-05</td>
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<tr>
<td>Toluene</td>
<td>5.00E-03</td>
<td>3.00E-05</td>
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#### Methodology

1. Emission Factors: AP-42, Tables 1.4-2, 1.4-3, 1.4-4.
   - Additional Organic HAPs listed in Table 1.4-3.
2. PTE (ton/yr) = Heat Input (MMBtu/hr) x EF (lb/MMCF) x (8760 hr/yr) x (1 ton/2000 lb) / Heating Value (MMBtu/MMCF)

### CO2 Emissions from Both Carbon Reactivation Furnaces (LA-28 and LA-28B)

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<th>Data Element</th>
<th>Value</th>
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<td>CO2 [A]</td>
<td>44 lb/mol</td>
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### Molecular Weights of Pollutants

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<tr>
<th>Data Designation</th>
<th>Value</th>
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<tbody>
<tr>
<td>V = RT/P</td>
<td>359.28 lb/mol</td>
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### Basis Uncontrolled Emission Rates Per Furnace

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<tr>
<th>Data Designation</th>
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<tr>
<td>CO2 [C]</td>
<td>12%</td>
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<td>Flow Rate [E]</td>
<td>5.77E-05 acfm</td>
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### Scrubber Outlet Temperature

<table>
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<tr>
<th>Data Designation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Temperature [J]</td>
<td>400°F</td>
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### Moisture

<table>
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<tr>
<td>Moisture [K]</td>
<td>24%</td>
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### Potential Operating Hours

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<th>Value</th>
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<tbody>
<tr>
<td>Potential Hours [L]</td>
<td>8760 hr/yr</td>
</tr>
</tbody>
</table>

### Uncontrolled Emission Rates Per Furnace

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 [M]</td>
<td>3874 lb/hr</td>
</tr>
<tr>
<td>Number of Furnaces [D]</td>
<td>2</td>
</tr>
</tbody>
</table>

### Total CO2 Emissions From LA-28 and LA-28B

<table>
<thead>
<tr>
<th>Data Designation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CO2 Emissions [P]</td>
<td>33,941.82 TPY</td>
</tr>
</tbody>
</table>
Appendix A: Emissions Calculations
Refinery Area
Krystar Expansion Project

Company Name: Tate & Lyle Lafayette South
Source Address: 3300 US 52 South, Lafayette, IN 47905
Significant Source Modification No.: 157.41843-00033
Part 70 Permit No.: 157.40694-00033
Reviewer: Doug Logan
Date: 10/7/2019

<table>
<thead>
<tr>
<th>S/V</th>
<th>Emissions Unit ID</th>
<th>Emissions Unit Description</th>
<th>Control Device Type</th>
<th>Control Device ID</th>
<th>Design Flow Rate (acfm)</th>
<th>Emission Factors (lbs/acfm)</th>
<th>Controlled Emissions (lbs/hr)</th>
<th>Control Efficiency (%)</th>
<th>Potential to Emit (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>LA-51</td>
<td>Krystar Dryer/Cooler Aspiration System No. 1, wet scrubber</td>
<td>LAC-51</td>
<td>12,000</td>
<td>0.008</td>
<td>0.0035</td>
<td>0.82</td>
<td>3.60</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35A</td>
<td>LA-51A</td>
<td>Krystar Dryer/Cooler Aspiration System No. 2, wet scrubber</td>
<td>LAC-51A</td>
<td>4,500</td>
<td>0.008</td>
<td>0.0035</td>
<td>0.29</td>
<td>1.27</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35B</td>
<td>LA-51B</td>
<td>Krystar Transporter Aspiration System, wet scrubber</td>
<td>LAC-51B</td>
<td>4,000</td>
<td>0.008</td>
<td>0.0035</td>
<td>0.27</td>
<td>1.20</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 4.95 17.73 1.77 7.75 1772.82 775.48

Potential to Emit After Issuance

Since this source is considered a major PSD source and the unrestricted potential to emit of this modification is greater than twenty five (25) tons of PM, fifteen (15) tons of PM10, and ten (10) tons of PM2.5 per year, this source has elected to limit the potential to emit of this modification as follows:

<table>
<thead>
<tr>
<th>S/V</th>
<th>Emissions Unit ID</th>
<th>Emissions Unit Description</th>
<th>Control Device Type</th>
<th>Control Device ID</th>
<th>Design Flow Rate (acfm)</th>
<th>PM Potential to Emit (lbs/hr)</th>
<th>PM Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>LA-51</td>
<td>Krystar Dryer/Cooler Aspiration System No. 1</td>
<td>wet scrubber</td>
<td>LAC-51</td>
<td>12,000</td>
<td>0.82 3.60 0.36 1.58</td>
<td></td>
</tr>
<tr>
<td>35A</td>
<td>LA-51A</td>
<td>Krystar Dryer/Cooler Aspiration System No. 2</td>
<td>wet scrubber</td>
<td>LAC-51A</td>
<td>4,500</td>
<td>0.29 1.27 0.13 0.55</td>
<td></td>
</tr>
<tr>
<td>35B</td>
<td>LA-51B</td>
<td>Krystar Transporter Aspiration System</td>
<td>wet scrubber</td>
<td>LAC-51B</td>
<td>4,000</td>
<td>0.27 1.20 0.12 0.53</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Emission factors from testing on existing Krystar Dryer/Cooler System No. 1 (LAC-51)
2. Engineering estimates
3. The bagger aspiration system can be routed to either dryer/cooler system, No. 1 or No. 2. Normal practice will be to route the bagger system to dryer/cooler No. 1.

Methodology
Controlled Emissions (lbs/hr) = Design Flow Rate (acfm) x Emission Factor (gr/acf) x 60 (min/hr) / 7,000 (gr/lb)
Controlled Emissions (tons/yr) = Controlled Emissions (lbs/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)
Potential to Emit (tons/yr) = Controlled Emissions (tons/yr) / [1 - (Control Efficiency (%) / 100)]
### Coal Ash Storage and Handling Area Summary

<table>
<thead>
<tr>
<th>SV ID</th>
<th>Unit ID</th>
<th>Process</th>
<th>Control</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>22 LA-33</td>
<td></td>
<td>Coal Unloading Aspiration System</td>
<td>Baghouse (LAC-33): particulate</td>
<td>7771</td>
<td>7771</td>
</tr>
<tr>
<td>23 LA-34</td>
<td></td>
<td>Crusher &amp; Transfer Aspiration System</td>
<td>Baghouse (LAC-34): particulate</td>
<td>3003</td>
<td>3003</td>
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<tr>
<td>24 LA-35</td>
<td></td>
<td>Coal Storage Silos Top Aspiration System</td>
<td>Baghouse (LAC-35): particulate</td>
<td>2253</td>
<td>2253</td>
</tr>
<tr>
<td>25 LA-36</td>
<td></td>
<td>Coal Storage Silos Bottom Aspiration System</td>
<td>Baghouse (LAC-36): particulate</td>
<td>3679</td>
<td>3679</td>
</tr>
<tr>
<td>26 LA-37</td>
<td></td>
<td>Utility Building Aspiration System #1</td>
<td>Baghouse (LAC-37): particulate</td>
<td>451</td>
<td>451</td>
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<tr>
<td>27 LA-38</td>
<td></td>
<td>Utility Building Aspiration System #2</td>
<td>Baghouse (LAC-38): particulate</td>
<td>451</td>
<td>451</td>
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<tr>
<td>28 LA-55</td>
<td></td>
<td>Coal Silo Aspiration System</td>
<td>Rotoclone (LAC-55): particulate</td>
<td>158</td>
<td>158</td>
</tr>
<tr>
<td>29 LA-56</td>
<td></td>
<td>Coal Bunkers Aspiration</td>
<td>Rotoclone (LAC-56): particulate</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>30B LA-42A</td>
<td></td>
<td>Coal Ash Transfer System</td>
<td>Baghouse (LAC-42A): particulate</td>
<td>1445</td>
<td>1445</td>
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<tr>
<td>31A LA-42B East</td>
<td></td>
<td>Ash Silo East Aeration Vent</td>
<td>Bin vent (LAC-42B East): particulate</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>31B LA-42B West</td>
<td></td>
<td>Ash Silo West Aeration Vent</td>
<td>Bin vent (LAC-42B West): particulate</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 19238 19238 547 0 0 0 0 28 28 8 0 0 0 0
## Appendix A: Emission Calculations
### Coal Ash Storage and Handling Area

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### Coal Ash Storage and Handling Area PM Emission Calculations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>LA-33</td>
<td>Coal Unloading Aspiration System</td>
<td>Baghouse (LAC-33): particulate</td>
<td>LAC-33</td>
<td>20,700</td>
<td>0.01</td>
<td>99.9%</td>
<td>1.77</td>
<td>0.283</td>
<td>2.2</td>
<td>99.0%</td>
<td>219.63</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>LA-34</td>
<td>Crusher &amp; Transfer Aspiration System</td>
<td>Baghouse (LAC-34): particulate</td>
<td>LAC-34</td>
<td>8,000</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.69</td>
<td>0.283</td>
<td>0.8</td>
<td>99.0%</td>
<td>84.88</td>
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<td>LA-35</td>
<td>Coal Storage Silos Top Aspiration System</td>
<td>Baghouse (LAC-35): particulate</td>
<td>LAC-35</td>
<td>6,000</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.51</td>
<td>0.283</td>
<td>0.6</td>
<td>99.0%</td>
<td>63.66</td>
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<tr>
<td>25</td>
<td>LA-36</td>
<td>Coal Storage Silos Bottom Aspiration System</td>
<td>Baghouse (LAC-36): particulate</td>
<td>LAC-36</td>
<td>9,800</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.84</td>
<td>0.283</td>
<td>1.0</td>
<td>99.0%</td>
<td>103.98</td>
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<tr>
<td>26</td>
<td>LA-37</td>
<td>Utility Building Aspiration System #1</td>
<td>Baghouse (LAC-37): particulate</td>
<td>LAC-37</td>
<td>1,200</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.10</td>
<td>0.283</td>
<td>0.1</td>
<td>99.0%</td>
<td>12.73</td>
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</tr>
<tr>
<td>27</td>
<td>LA-38</td>
<td>Utility Building Aspiration System #2</td>
<td>Baghouse (LAC-38): particulate</td>
<td>LAC-38</td>
<td>1,200</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.10</td>
<td>0.283</td>
<td>0.1</td>
<td>99.0%</td>
<td>12.73</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>LA-55</td>
<td>Coal Silo Aspiration System</td>
<td>Rotoclone (LAC-55): particulate</td>
<td>LAC-39</td>
<td>10,500</td>
<td>0.02</td>
<td>95.0%</td>
<td>1.80</td>
<td>0.283</td>
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<td>70.0%</td>
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<td>LA-56</td>
<td>Coal Bunkers Aspiration System</td>
<td>Rotoclone (LAC-56): particulate</td>
<td>LAC-56</td>
<td>1,300</td>
<td>0.02</td>
<td>95.0%</td>
<td>0.22</td>
<td>0.283</td>
<td>0.3</td>
<td>70.0%</td>
<td>0.92</td>
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<tr>
<td>30B</td>
<td>LA-42A</td>
<td>Coal Ash Transfer System</td>
<td>Baghouse (LAC-42A): particulate</td>
<td>LA-42A</td>
<td>3,850</td>
<td>0.01</td>
<td>99.9%</td>
<td>0.33</td>
<td>0.283</td>
<td>0.4</td>
<td>99.0%</td>
<td>40.85</td>
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</tr>
<tr>
<td>31A</td>
<td>LA-42B East</td>
<td>Ash Silo East Aeration Vent</td>
<td>Bin vent (LAC-42B East): particulate</td>
<td>N/A</td>
<td>525</td>
<td>0.2</td>
<td>99.0%</td>
<td>9.00E-03</td>
<td>3.94E-02</td>
<td>4</td>
<td>0.283</td>
<td>1.11E-02</td>
<td>0.0%</td>
</tr>
<tr>
<td>31B</td>
<td>LA-42B West</td>
<td>Ash Silo West Aeration Vent</td>
<td>Bin vent (LAC-42B West): particulate</td>
<td>N/A</td>
<td>525</td>
<td>0.2</td>
<td>99.0%</td>
<td>9.00E-03</td>
<td>3.94E-02</td>
<td>4</td>
<td>0.283</td>
<td>1.11E-02</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

### Methodology

1. **Design value.**
2. **PM/PM10 Controlled PTE (lb/hr) = Flowrate (acfm) x Outlet Grain Loading (gr/acf) x (60 min/hr) x (1 lb/7000 gr)**
3. **PM/PM10 Controlled PTE (ton/yr) = PM/PM10 Controlled PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)**
4. **PM/PM10 Uncontrolled PTE (ton/yr) = PM/PM10 Controlled PTE (ton/yr) / (1 - Control Efficiency)**
5. **PM2.5 : PM10 ratio is based on PM10 and PM2.5 AP-42 emission factors for Controlled Conveyor Transfer Point for Crushed Stone Processing Operations (SCC 3-05-020-06), Table 11.19.2-1**
6. **PM2.5 Controlled PTE (ton/yr) = PM/PM10 Controlled PTE (ton/yr) x PM2.5 : PM10 ratio**
7. **PM2.5 Control Efficiency is assumed to be less than for PM and PM10 (AP-42, Appendix B.2, Table B.2-3)**
8. **PM2.5 Uncontrolled PTE (ton/yr) = PM2.5 Controlled PTE (ton/yr) / (1 - PM2.5 Control Efficiency)**
## Appendix A: Emission Calculations
### Coal Ash Storage and Handling Area

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### SPM 157-36348-00033 Limited Emissions

<table>
<thead>
<tr>
<th>S/V ID</th>
<th>Emission Unit ID</th>
<th>Emission Unit Description</th>
<th>Control Device Type</th>
<th>Control Device ID</th>
<th>Design Flow (acfm)</th>
<th>Limited PM Emissions[1] (lb/hr)</th>
<th>Limited PM Emissions[1] (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>LA-36</td>
<td>Coal Storage Silos Bottom Aspiration System</td>
<td>Baghouse (LAC-36):</td>
<td>LAC-36</td>
<td>9,800</td>
<td>0.23</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>particulate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30B</td>
<td>LA-42A</td>
<td>Coal Ash Transfer System</td>
<td>Baghouse (LAC-42A):</td>
<td>LA-42A</td>
<td>3,850</td>
<td>0.16</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>particulate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31A</td>
<td>LA-42B East</td>
<td>Ash Silo East Aeration Vent</td>
<td>None</td>
<td>N/A</td>
<td>525</td>
<td>0.023</td>
<td>0.1</td>
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<tr>
<td>31B</td>
<td>LA-42B West</td>
<td>Ash Silo West Aeration Vent</td>
<td>None</td>
<td>N/A</td>
<td>525</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

\[1\] Hourly emission limits based on source testing

**Methodology**

Limited PM Emissions (tons/yr) = Limited PM Emissions (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)
Appendix A: Emission Calculations
Emergency Fire Pump and Emergency Generator

Company Name: Tate & Lyle Lafayette South
Source Address: 3300 US 52 South, Lafayette, IN 47905
Significant Source Modification No.: 157-41643-00033
Part 70 Permit No.: 157-40694-00033
Reviewer: Doug Logan
Date: 10/7/2019

1. Emergency Generator
Output Horsepower Rating (hp)  938.0
Maximum Hours Operated per Year  500
Potential Throughput (hp-hr/yr)  469,000
Sulfur Content (S) of Fuel (% by weight)  0.500

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/hp-hr</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>7.00E-04</td>
<td>0.16</td>
</tr>
<tr>
<td>PM10*</td>
<td>4.01E-04</td>
<td>0.09</td>
</tr>
<tr>
<td>direct PM2.5*</td>
<td>4.01E-04</td>
<td>0.09</td>
</tr>
<tr>
<td>SO2</td>
<td>4.05E-03</td>
<td>0.95</td>
</tr>
<tr>
<td>NOx</td>
<td>2.40E-02</td>
<td>5.63</td>
</tr>
<tr>
<td>VOC</td>
<td>7.05E-04</td>
<td>0.17</td>
</tr>
<tr>
<td>CO</td>
<td>5.50E-03</td>
<td>1.29</td>
</tr>
</tbody>
</table>

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Tables 3.3-1 and 3.4-1).
**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>Emission Factor in lb/hp-hr</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>5.43E-06</td>
<td>1.27E-03</td>
</tr>
<tr>
<td>Toluene</td>
<td>1.97E-06</td>
<td>4.12E-04</td>
</tr>
<tr>
<td>Xylene</td>
<td>1.35E-06</td>
<td>2.86E-06</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>5.52E-07</td>
<td>2.00E-06</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.76E-07</td>
<td>1.30E-04</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.52E-08</td>
<td>4.14E-05</td>
</tr>
<tr>
<td>Acrolein</td>
<td>1.48E-06</td>
<td>1.29E-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
Potential Throughput (hp-hr/yr) = \[\text{Output Horsepower Rating (hp)} \times \text{Maximum Hours Operated per Year}\]
Potential Emission (tons/yr) = \[\text{Potential Throughput (hp-hr/yr)} \times \text{Emission Factor (lb/hp-hr)} / 2,000 \text{ lb/ton}\]

2. Emergency Fire Pump
Output Horsepower Rating (hp)  258.0
Maximum Hours Operated per Year  500
Potential Throughput (hp-hr/yr)  129,000

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/hp-hr</th>
<th>Potential Emission in tons/yr</th>
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</thead>
<tbody>
<tr>
<td>PM*</td>
<td>0.0022</td>
<td>0.14</td>
</tr>
<tr>
<td>PM10*</td>
<td>0.0022</td>
<td>0.14</td>
</tr>
<tr>
<td>direct PM2.5*</td>
<td>0.00205</td>
<td>0.13</td>
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<tr>
<td>SO2</td>
<td>0.0310</td>
<td>2.00</td>
</tr>
<tr>
<td>NOx</td>
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<td>0.16</td>
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<td>VOC</td>
<td>0.00668</td>
<td>0.43</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>Emission Factor in lb/hp-hr</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>6.53E-06</td>
<td>1.75E-03</td>
</tr>
<tr>
<td>Toluene</td>
<td>2.86E-06</td>
<td>1.75E-03</td>
</tr>
<tr>
<td>Xylene</td>
<td>2.00E-06</td>
<td>1.75E-03</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>2.74E-07</td>
<td>1.75E-03</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>8.26E-06</td>
<td>1.75E-03</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.37E-06</td>
<td>1.75E-03</td>
</tr>
<tr>
<td>Acrolein</td>
<td>6.48E-07</td>
<td>1.75E-03</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
Potential Emission of Total HAPs (tons/yr) = \[\text{Potential Emission of Total HAPs (tons/yr)}\]
## Appendix A: Emission Calculations
### Emergency Fire Pump and Emergency Generator

**Company Name:** Tate & Lyle Lafayette South  
**Source Address:** 3300 US 52 South, Lafayette, IN 47905  
**Significant Source Modification No.:** 157-41643-00033  
**Part 70 Permit No.:** 157-40694-00033  
**Reviewer:** Doug Logan  
**Date:** 10/7/2019

### 3. Combined PTE

<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>
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</thead>
<tbody>
<tr>
<td><strong>Total:</strong></td>
<td>0.31</td>
<td>0.24</td>
<td>0.24</td>
<td>1.08</td>
<td>7.63</td>
<td>0.33</td>
<td>1.72</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylenes</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><strong>Total:</strong></td>
<td>1.70E-03</td>
<td>6.46E-04</td>
<td>4.45E-04</td>
<td>1.77E-05</td>
<td>6.62E-04</td>
<td>3.88E-04</td>
<td>5.47E-05</td>
<td>4.24E-04</td>
</tr>
</tbody>
</table>

- **Potential Emission of Total HAPs (tons/yr):** 4.33E-03
- **Potential Emission of Highest Single HAP (tons/yr):** 1.78E-03

### Methodology

Sum of sections 1 and 2
October 10, 2019

Susan Hayenga
Tate & Lyle Ingredients Americas, LLC
3300 US Hwy 52 S
Lafayette, IN 47905-7977

Re: Public Notice
Tate & Lyle Ingredients Americas, LLC
Permit Level: Title V Renewal
Permit Number: 157-40694-00033

Dear Ms. Hayenga:

Enclosed is a copy of your draft Title V Operating Permit 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 Tippecanoe County Public Library, 627 South Street in Lafayette, IN. 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 Doug Logan, 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 4-5328 or dial (317) 234-5328.

Sincerely,

Theresa Weaver
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 4/12/19
October 10, 2019

To: Tippecanoe County 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: Tate & Lyle Ingredients Americas, LLC
Permit Number: 157-40694-00033; 157-41643-00033

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 Smiddle-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

October 10, 2019
Tate & Lyle Ingredients Americas, LLC
157-40694-00033; 157-41643-00033

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.
AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

October 10, 2019

A 30-day public comment period has been initiated for:

**Permit Number:** 157-40694-00033; 157-41643-00033  
**Applicant Name:** Tate & Lyle Ingredients Americas, LLC  
**Location:** Lafayette, Tippecanoe County, Indiana

The public notice, draft permit and technical support documents can be accessed via the IDEM Air Permits Online site at:  
http://www.in.gov/ai/appfiles/idem-caats/

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

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

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.

Affected States Notification 1/9/2017
# Mail Code 61-53

**Name and address of Sender**

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<th>S.D. Fee</th>
<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
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<td>Susan Hayenga Tate &amp; Lyle Ingredients Americas LLC South Plant 3300 US Hwy 52 S Lafayette IN 479057977 (Source CAATS)</td>
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<td>Travis Montoya Plant Manager Tate &amp; Lyle Ingredients Americas LLC South Plant 3300 US 52 S Lafayette IN 479057977 (RO CAATS)</td>
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<td></td>
<td>Mr. Elliott McKinnis 2605 Yeager Road W. Lafayette IN 47906 (Affected Party)</td>
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<td>Ms. Joyce Good 1021 Berkley Rd. Lafayette IN 47904 (Affected Party)</td>
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<td>Ms. Denice Loveless 1319 North 15th Street Lafayette IN 47904-2115 (Affected Party)</td>
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<td>Mr. Charles Neill 700 N. 28th St. Lafayette IN 47904-2705 (Affected Party)</td>
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<td>Mr. James Burkett 1115 E Evans St Springfield MO 65810-2926 (Affected Party)</td>
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<td>15</td>
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<td>Mr. Robert Laird 2005 Platte Dr. Lafayette IN 47905 (Affected Party)</td>
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**Mail Code 61-53**

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express 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 and COD mail. See International Mail Manual for limitations on coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
# Mail Code 61-53

**Name and address of Sender**

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<td>Ms. Sarah Templin President Vinton Woods Club 3516 Mulberry Dr. Lafayette IN 47905 (Affected Party)</td>
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<td>3</td>
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<td>Mr. Charles Craw 408 Westview Cir. West Lafayette IN 47906 (Affected Party)</td>
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<td>City Council Representative, District 4 1227 Catula Ave. Lafayette IN 47905 (Affected Party)</td>
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<td>Mr. John Gladden 7483 Doe Valley Tri Lafayette IN 47905 (Affected Party)</td>
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<td>Ms. Evelyn Briggs 213 Fairington Ct, Apt 19 Lafayette IN 47905-4821 (Affected Party)</td>
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<td>Ms. Cheryl Hartman 148 Bordeaux Boulevard Lafayette IN 47905 (Affected Party)</td>
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<td>Ms. Norma Kessen 2513 Shasta Dr Lafayette IN 47909 (Affected Party)</td>
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<td>Ms. Scarlett Manion P.O. Box 6592 Lafayette IN 47903 (Affected Party)</td>
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<td>Ms. Donna Patton 13 Rene Blvd Lafayette IN 47905 (Affected Party)</td>
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<td>Ms. Dianna Velter 88 Deveraux Circle Lafayette IN 47905 (Affected Party)</td>
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<td>15</td>
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<td>Sanctuary Homeowners 3511 Pintail Drive Lafayette IN 47905 (Affected Party)</td>
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**Type of Mail:** CERTIFICATE OF MAILING ONLY

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express 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 and 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.
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<th>Remarks</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Mary Ann and Bruce Junius 1625 Cottonwood Cr. Lafayette IN 47905 (Affected Party)</td>
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<td>Mr. Michael Smith 1824 Arcadia Drive Lafayette IN 47905 (Affected Party)</td>
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<td>Mrs. Phyllis Owens 3600 Cypress Lane Lafayette IN 47905 (Affected Party)</td>
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<td>Ms. Connie Wagner 803 Greenwich Road Lafayette IN 47905-4324 (Affected Party)</td>
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<td>Ms. Jennifer Schramm 3614 E. County Road 200 N. Lafayette IN 47905-7852 (Affected Party)</td>
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<td>Mr. Kevin Lynch 3614 E. County Road 200 N. Lafayette IN 47905-7852 (Affected Party)</td>
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<td>Mrs. Robin Mills Ridgeway 3814 East County Road 200 North Lafayette IN 47905-7852 (Affected Party)</td>
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<td>Ms. Wendy Liphard 6830 S. 775 E. Lafayette IN 47905-9331 (Affected Party)</td>
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<td>Mr. Chad Giroux 3550 Gamble Ln Lafayette IN 47909 (Affected Party)</td>
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<td>Mr. Jim Holt 3408 Ingram Court Lafayette IN 47909-6380 (Affected Party)</td>
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<td>Mr. Dor Ben-Amotz 3275 W450 North West Lafayette IN 47906 (Affected Party)</td>
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<td>15</td>
<td>15</td>
<td>Mr. John Percifield 400 Overlook Dr. West Lafayette IN 47906 (Affected Party)</td>
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</tbody>
</table>

Total number of pieces Listed by Sender: 15

Total number of Pieces Received at Post Office: 15

Postmaster, Per (Name of Receiving employee): The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express 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 inured and 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.
Mail Code 61-53

<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>
<th>Type of Mail: CERTIFICATE OF MAILING ONLY</th>
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<tr>
<td>Line 1</td>
<td>Article Number</td>
<td>Name, Address, Street and Post Office Address</td>
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<tr>
<td>1</td>
<td>1</td>
<td>Mary Blignant 5421 Hillside Lane West Lafayette IN 47906 (Affected Party)</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Mr. Jerry White 3837 Basalt ST Lafayette IN 47909 (Affected Party)</td>
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<tr>
<td>3</td>
<td>3</td>
<td>Ms. Rose Filley 5839 Lookout Drive West Lafayette IN 47906 (Affected Party)</td>
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<td>4</td>
<td>4</td>
<td>Ms. Sue Scott 2605 Yeager Rd West Lafayette IN 47906 (Affected Party)</td>
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<td>5</td>
<td>5</td>
<td>Mr. William Cramer 128 Seminole Drive West Lafayette IN 47906 (Affected Party)</td>
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<tr>
<td>6</td>
<td>6</td>
<td>Emil Berndt 30 Merlin Ct Lafayette IN 47905-9689 (Affected Party)</td>
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<tr>
<td>7</td>
<td>7</td>
<td>Lon &amp; Lauretta Heide 40 Gregory Court Lafayette IN (Affected Party)</td>
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<tr>
<td>8</td>
<td>8</td>
<td>Mr. Brandt Hershman PO Box 177 Buck Creek IN 47924 (Affected Party)</td>
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<td>9</td>
<td>9</td>
<td>Mr. Patrick Grimes 443 N 4th Street Lafayette IN (Affected Party)</td>
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<td>10</td>
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<td>R.J. Beck 20 N. 3rd Street Lafayette IN (Affected Party)</td>
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<td>11</td>
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<td>Mr. Marvin Wiederhold 2809 N. 400 West West Lafayette IN (Affected Party)</td>
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<td>12</td>
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<td>Ms. Melissa Weast Williamson 2905 Beverly Lane Lafayette IN (Affected Party)</td>
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<td>13</td>
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<td>Ed Chosnek 316 Ferry Street Lafayette IN 47904 (Affected Party)</td>
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<td>14</td>
<td>14</td>
<td>Vicki Sines 8625 E. 375 S. Lafayette IN 47905 (Affected Party)</td>
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<td>15</td>
<td>West Lafayette City Council and Mayors Office 609 W. Navajo West Lafayette IN 47906 (Local Official)</td>
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</tbody>
</table>

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express 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 and 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.
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<tr>
<th>Line</th>
<th>Article Number</th>
<th>Name, Address, Street and Post Office Address</th>
<th>Postage</th>
<th>Handling Charges</th>
<th>Act. Value (If Registered)</th>
<th>Insured Value</th>
<th>Due Send if COD</th>
<th>R.R. Fee</th>
<th>S.D. Fee</th>
<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
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<td></td>
<td>Allen Hoffman 4740 Masons Ridge Rd. Lafayette IN 47909 (Affected Party)</td>
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